

# PHYSICIAN ASSISTANT STUDIES (PAS)

## PAS 700: Medical Ethics and Professionalism

### 1 Credits

This course provides an introduction to bioethics and professionalism and provides a framework for understanding ethical issues in medicine. This course is held during the Summer semester for students in the PA program. Active learning strategies will be employed in order to keep the student actively engaged in this educational process. Reflective thinking exercises will be utilized in order for the student to gain critical thinking skills in order to apply this knowledge to the clinical setting. The topics covered in the course are often difficult, not just intellectually but emotionally. While rigorous discussion and disagreement in the course of class discussions is anticipated, it is expected that students will engage in discussion with care and empathy for other members in the classroom. Students will be challenged to navigate course materials through the critical examination and assessment of basic assumptions and values that are vital to fulfilling authenticity in professional practice.

## PAS 701: Applied Human Structure and Function I

### 3 Credits/Maximum of 3

This course is the first of a two-part series that provides students with a framework for understanding the gross anatomical concepts, organization, and function of the human body using a laboratory devoted to dissection of the human body.

## PAS 702: Applied Human Structure and Function II

### 3 Credits/Maximum of 3

This course is the second of a two-part series that provides students with a framework for understanding the gross anatomical concepts, organization, and normal physiology/function of the human body using a laboratory devoted to dissection of the human body.

**Prerequisite:** PAS 701 , PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 717 , PAS 723

## PAS 703: Applied Human Structure and Function III

### 2 Credits

Course will discuss the clinically relevant anatomy and structural information necessary for clinical practice emphasizing surface anatomy and surface markings. PAS 703 Applied Human Structure and Function III (2) Course covers the clinically relevant anatomy, structural information, underlying physiology, and clinical application necessary for preparing students for clinical practice emphasizing the relationship between anatomy and clinical disease. The practical application of anatomical information to clinical medicine is covered by using case studies via team-based learning in anatomy. Clinical problems requiring anatomical knowledge for their solution are presented during each case conference session. Lectures and laboratories cover the embryonic development of the human body and the relationship to structure and function. Cadaver dissection will be utilized to reinforce the position of these anatomy structures so that clinical relevance can be elicited. Course objectives: At the completion of this course, the student will be able to: - Describe the normal anatomy and physiology as it relates to the

practice of medicine. - Use surface anatomy as the basis for the physical examination. - Identify normal and abnormal structures on dissection and discuss how alteration in human anatomy can impact health and disease states. - Explain the relationship between anatomic structure and function and how this relates to health and disease. - Discuss the clinical relevance between anatomy and function. - Describe the relationship between clinical anatomy and its radiographic appearance. Methods of instruction will include: (1) lecture, (2) discussion, (3) demonstration, (4) audiovisual materials, (5) case studies, (6) dissection laboratories, (7) radiographic correlation. The audiovisual materials will be in the form of Primal Anatomy (Penn State has already purchased) and the Netter Anatomy Atlas (available via Harrell Library). Classes will be held in C1847 every Wednesday (1-5 pm) and Fridays (3-5 pm) with the anatomy dissection laboratory being utilized for two weeks during the semester. The dissection laboratory will occur from 8-12 daily from Monday through Friday with the students from the College of Medicine. The students will be integrated with the medical students and these groups will rotate in the dissection laboratory, as assigned. The lecture-based instruction will take place in C1847 and will primarily consist of case-based instruction. The topics covered in this class will correspond to the topic areas in the clinical medicine integrated class, namely cardiology, pulmonary, oncology, general surgery. Evaluation strategies will include multiple choice examinations, practical laboratory examinations, and tests which involve the identification of structures and their function. This class is offered during the third semester (spring semester) of the Physician Assistant Program and will be offered yearly.

**Prerequisite:** PAS 706 , PAS 718 , PAS 712 , PAS 709 , PAS 715 , PAS 728

## PAS 704: Clinical Medicine I

### 5 Credits

This is the cornerstone of all the medically relevant courses. Various disease processes will be described, along with the incidence, prevalence, pathophysiology, treatment plans, and expected outcomes.

**Prerequisite:** Pre-Clinical Graduate Physician Assistant Student qualified as a result of their admission to this program; Concurrent: PAS 701, PAS 707 , PAS 710 , PAS 713 , PAS 716 , PAS 720

## PAS 705: Clinical Medicine II

### 5 Credits

This is the cornerstone of all the medically relevant courses. Various disease processes will be described, along with the incidence, prevalence, pathophysiology, treatment plans, and expected outcomes. PAS 705 Clinical Medicine II (5) This is the cornerstone of all the medically relevant courses. Various disease processes will be described, along with the incidence, prevalence, underlying causes, treatment plans, and expected outcomes. This course is organized into blocks covering infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. Grand Round presentations at the Hershey Medical Center may be used to supplement the topics in this class and will be assigned, as needed. The typical presentation for these disorders will be discussed along with a wide spectrum of the disease entity. With the integrated approach to this curriculum, deep discussion regarding the prevalence, signs and symptoms, initial evaluation strategies and clinical interventional; strategies will be discussed. Team-Based Learning and Critical Thinking Skill Development/Patient Communication discussion will be held throughout the semester in order to support and reinforce the information provided in this class. This course is held during the

second pre-clinical semester for students in the physician assistant program. Active learning strategies will be employed in order to keep the student actively engaged in this educational process. Reflective thinking exercises will be utilized in order for the student to gain critical thinking skills in order to apply this knowledge to the clinical setting. At the conclusion of this course, the student will be able to identify, assess, evaluate, and provide clinical interventional strategies for patients who present with complaints related to the following systems: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. Students successfully completing this course will also be able to demonstrate their interpersonal communication skills to their patients with regard to patient education for preventive and acute care strategies and for ongoing support for patients with chronic disease states. Evaluation methods will primarily consist of multiple choice examinations. These examinations are intended to allow students to demonstrate their ability to critically apply their knowledge for clinical case scenario questions and also to demonstrate their knowledge for these covered conditions. Although the test format will primarily be multiple choice questions, students should be aware that properly written questions can assess student knowledge in the following subject areas: most likely diagnosis, clinical intervention, ordering appropriate diagnostic studies, performing clinical therapeutics, applying scientific knowledge, recommending prevention and health maintenance strategies, and utilizing clues from the patient presentation, history and physical examination in order to pursue further diagnostic strategies.

**Prerequisite:** PAS 704 ' Pre-Clinical Graduate Physician Assistant Student qualified as a result of their admission to this program.; Concurrent: PAS 702 , PAS 708 , PAS 711 , PAS 714 , PAS 717 , PAS 723

#### PAS 706: Clinical Medicine III

5 Credits

This is the cornerstone of all the medically relevant courses. Various disease processes will be described, along with the incidence, prevalence, pathophysiology, treatment plans, and expected outcomes. PAS 706 Clinical Medicine III (5) This is the cornerstone of all the medically relevant courses. Various disease processes will be described, along with the incidence, prevalence, underlying causes, treatment plans, and expected outcomes. This course is organized into blocks covering cardiology, pulmonary, hematology, and oncology. Grand Round presentations at the Hershey Medical Center may be used to supplement the topics in this class and will be assigned, as needed. The typical presentation for these disorders will be discussed along with a wide spectrum of the disease entity. With the integrated approach to this curriculum, deep discussion regarding the prevalence, signs and symptoms, initial evaluation strategies and clinical interventional; strategies will be discussed. Team-Based Learning and Critical Thinking Skill Development/Patient Communication discussion will be held throughout the semester in order to will support and reinforce the information provided in this class. This course is held during the second pre-clinical semester for students in the physician assistant program. Active learning strategies will be employed in order to keep the student actively engaged in this educational process. Reflective thinking exercises will be utilized in order for the student to gain critical thinking skills in order to apply this knowledge to the clinical setting. At the conclusion of this course, the student will be able to identify, assess, evaluate, and provide clinical interventional strategies for patients who present with complaints related to the following systems: cardiology, pulmonary, hematology, and oncology.. Students successfully completing this course will also be able to demonstrate their

interpersonal communication skills to their patients with regard to patient education for preventive and acute care strategies and for ongoing support for patients with chronic disease states. Evaluation methods will primarily consist of multiple choice examinations. These examinations are intended to allow students to demonstrate their ability to critically apply their knowledge for clinical case scenario questions and also to demonstrate their knowledge for these covered conditions. Although the test format will primarily be multiple choice questions, students should be aware that properly written questions can assess student knowledge in the following subject areas: most likely diagnosis, clinical intervention, ordering appropriate diagnostic studies, performing clinical therapeutics, applying scientific knowledge, recommending prevention and health maintenance strategies, and utilizing clues from the patient presentation, history and physical examination in order to pursue further diagnostic strategies.

**Prerequisite:** Pre-Clinical Graduate Physician Assistant Student qualified as a result of their admission to this program; Concurrent: PAS 703 , PAS 709 , PAS 712 , PAS 715 , PAS 718 , PAS 726

#### PAS 707: Pathophysiology I

2 Credits

This class provides a systems approach to basic concepts of disease processes which enables analysis for alterations to body systems.

**Prerequisite:** Preclinical student qualified for the Penn State Physician Assistant Program; Concurrent: PAS 701 , PAS 704 , PAS 702 , PAS 710 , PAS 721 , PAS 714

#### PAS 708: Pathophysiology II

2 Credits

This class provides a systems approach to basic concepts of disease processes which enables analysis for alterations to body systems.

PAS 708 Pathophysiology II (2) Class provides a systems approach to basic concepts of disease processes which enables analysis for alterations to body systems. Normal physiology will be discussed as part of the class but class emphasis is in the area of pathophysiology. Concepts are reviewed for the understanding that disease processes represent a disruption in homeostasis and a breakdown of normal integration of structure and function. Pathology regarding the following systems will be presented: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. Special emphasis will be placed upon normal physiology and pathophysiologic processes that affect specific population subtypes. This is the cornerstone of all physiology and pathophysiology instruction utilized in the curriculum. Various disease processes will be described with discussion as to the underlying causes. Normal physiology will be discussed so that the learner can better grasp the outcomes of processes when normal physiology breaks down. This course is organized into blocks covering: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. This course will be presented concurrently with physiology, pharmacology, and the clinical medicine approach to the course topics, as seen from the clinician's perspective. This integrative approach covering multiple elements of each of the conditions allows the student to gain an inclusive perspective to all of the covered entities. Other elements of the curriculum during this semester will be separately presented during the semester and these other courses will further support and enhance the topics covered in these sections. Instructional Objectives: At the conclusion of this course the student

will: - Demonstrate the ability to formulate differential diagnosis and evaluation methods for patients who present with alterations in the normal physiologic processes for the following systems: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. - Develop a plan for patients who present with complaints in the following systems: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. - Describe the presentation, key findings, and underlying causes of both physiology and pathophysiology infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease. - Explain the importance and role of diagnostic interventions that are used for patients who present with diseases related to the following systems: infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease with the understanding of both normal and abnormal physiological processes. - Explain the underlying processes for the various diseases that are covered in the areas of infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease.

**Prerequisite:** PAS 707 ; Preclinical student qualified for the Penn State Physician Assistant Program; Concurrent: PAS 702, PAS 705 , PAS 711 , PAS 714 , PAS 717 , PAS 723

#### PAS 709: Pathophysiology III

2 Credits

This class provides a systems approach to basic concepts of disease processes prior to analyzing common alterations to body systems. PAS 709 Pathophysiology III (2) This class provides a systems approach to basic concepts of disease processes prior to analyzing common alterations to body systems. Normal physiology components will be discussed as part of the class but the emphasis for this class is in the area of pathophysiology. Concepts are reviewed for the understanding that disease processes represent a disruption in homeostasis and a breakdown of normal integration of structure and function. Pathology regarding the following systems will be presented in detail: Cardiac and Pulmonary systems.

**Prerequisite:** PAS 715 and PAS 716 . Third semester graduate student in the Penn State PA program; Concurrent: PAS 703, PAS 706 , PAS 712 , PAS 715 , PAS 718 , PAS 726

#### PAS 710: Pharmacology I

2 Credits

This class will review the basic principles of drug action, their indications, contraindications, toxicities, and potential side effects.

**Prerequisite:** Preclinical student qualified for the Penn State Physician Assistant Program; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 713 , PAS 716 , PAS 720

#### PAS 711: Pharmacology II

2 Credits

This class will review the basic principles of drug action, indications, contraindications, toxicities, and potential adverse effects. PAS 711 Pharmacology II (2) This class provides instruction in the basic principles of drug action, drug indications, drug interaction, toxicities,

and adverse drug effects, as taught from the perspective of the clinician prescriber. Students will be able to study the commonly used drugs affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal condition. Indications for using first and second-line medications will be emphasized in this course along with the exclusions for using these medications in specific circumstances. Special emphasis is placed upon the use of medications in special populations (pregnancy, pediatric, geriatric) and how these conditions can affect drug metabolism. This is the cornerstone of pharmacology instruction in the curriculum. Various disease processes will be described along with pharmacologic management. This course is organized into blocks covering affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal conditions. This course is presented concurrently with physiology, pathophysiology, and the clinical medicine approach to the course topics, as seen from the prescriber's perspective. This integrative approach covers multiple perspectives for each of the conditions allowing the student to gain an overall perspective to these covered entities. Other elements of the curriculum will be separately presented during the semester and these other courses will further support and enhance the topics covered in these sections. Instructional Objectives: At the conclusion of this course the student will be able to: - Demonstrate the ability to develop a tiered treatment regimen for conditions relating to the affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal condition. - Describe the presentation, key findings, and underlying causes of both normal and abnormal disease processes in affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal condition which will entail personalized medicine and treatment plans. - Explain the importance and role of diagnostic interventions that are used for patients who present with diseases related to the affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal condition. - Explain the underlying processes for the various diseases regarding the affecting infectious disease, dermatologic disease, neurologic condition, rheumatologic condition, ophthalmologic condition, otolaryngolic condition, oral cavity, and musculoskeletal condition so that individual clinical therapeutic plans can be developed. Evaluation Methods: Traditional assessment methods will be utilized in this course (multiple choice, best-answer examinations). The learning goals of this class necessitate that core knowledge is assessed along with the student's ability to develop treatment regimen based upon clinical case scenario. This class will provide relevant, authentic case discussion for problems involving the gastroenterologic, renal/urologic, endocrine, and immune systems along with geriatric medicine.

**Prerequisite:** PAS 710 ; Preclinical student qualified for the Penn State Physician Assistant Program; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 714 , PAS 717 , PAS 723

#### PAS 712: Pharmacology III

2 Credits

This class will review the basic principles of drug action, their indications, contraindications, toxicities, and potential side effects. PAS 712 Pharmacology III (2) This class will review the basic principles of drug action, their indications, contraindications, toxicities, and potential side effects. Students will be able to study the commonly used drugs

affecting the cardiac and pulmonary systems. Students will be expected to select the preferred medication in any given circumstance with regard to conditions affecting the cardiac and pulmonary systems. This class will provide instruction from the perspective of the prescriber of the medication. Instruction will include therapeutic interventions that consist of more than just medications being delivered. Routes of administration of medication will also be discussed along with providing instruction as to how dosing can affect drug delivery and activity.

**Prerequisite:** PAS 710 and PAS 711 ; third semester graduate student in the Penn State Graduate Physician Assistant Program; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 715 , PAS 718 , PAS 726

#### PAS 713: Pharmacotherapeutics I

1 Credits

This course discusses the mechanism of action, medication classification, the indications, contraindications, and adverse events seen with medication use.

**Prerequisite:** First semester physician assistant student who is qualified for this course through the admission criteria for the PA program; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 710 , PAS 716 , PAS 720

#### PAS 714: Pharmacotherapeutics II

1 Credits

Course discusses the mechanism of action, the medication classification, the indications, contraindications, and adverse effects with the use of medications. PAS 714 Pharmacotherapeutics II (1) This course will discuss the mechanism of action, the classification system for medications, the indications, contraindications, and side effects with the use of medications in various systems. This course will discuss the various methods by which medications can be utilized and will highlight and explain why certain medications are considered to be the drug of choice for a given problem. Alternatives to medications may also be discussed in the management of various conditions. This course will also discuss costs of medications so that the graduate physician assistant student is taught pharmacotherapeutics from a cost-effective perspective. The subjects that will be emphasized during this course will be infectious disease, HEENT, neurology, rheumatology, behavioral medicine, and musculoskeletal medicine.

**Prerequisite:** Pharmacotherapeutics I; student enrolled in the pre-clinical curriculum of the Penn State Physician Assistant Program; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 717 , PAS 723

#### PAS 715: Pharmacotherapeutics III

1 Credits

This course will discuss the mechanism of action, the classification system for medications, the indications, contraindications, and side effects with the use of medications in various systems. PAS 715 Pharmacotherapeutics III (1) This course will discuss the mechanism of action, the classification system for medications, the indications, contraindications, and side effects with the use of medications in various systems. This course will discuss the various methods by which medications can be utilized and will highlight and explain why certain medications are considered to be the drug of choice for a given problem. Alternatives to medications may also be discussed in the management of various conditions. This course will also discuss costs of medications so that the graduate physician assistant student is taught

pharmacotherapeutics from a cost-effective perspective. This course will emphasize topic areas in the following systems: cardiac, pulmonary, hematologic, and oncologic systems.

**Prerequisite:** Pharmacotherapeutics I, Pharmacotherapeutics II; Graduate student in the third semester of the Penn State Physician Assistant Program; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 . PAS 718 , PAS 726

#### PAS 716: History and Physical Examination I

2 Credits

Techniques for eliciting a complete medical history, performance of a complete physical examination, and accurate recording in a patient record.

**Prerequisite:** First semester student in the physician assistant program who has been qualified for admission; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 710 , PAS 713

#### PAS 717: History and Physical Examination II

2 Credits

Students integrate the history and physical examination to perform an accurate evaluation of the patient while demonstrating appropriate interpersonal behaviors. PAS 717 History and Physical Examination II (2) A continuation of PAS 716, History and Physical Examination I. Students begin to integrate the results of history, physical and laboratory findings to arrive at an accurate evaluation of the patient so that the physician assistant and the supervising physician can determine the next appropriate diagnostic or therapeutic step. Course emphasis will be on interpersonal communication between the physician assistant student and the patient in a culturally competent and caring, empathetic manner. Students will gather patient information, organize this data, and arrive at differential diagnoses based upon the information that has been gathered for patients who present with complaints related to their musculoskeletal, ophthalmologic, otolaryngologic, dental, dermatologic, or neurologic system. This class will complement the topic areas that are covered during the integrated clinical medicine, pathophysiology, and pharmacologic courses. Students will be able to apply knowledge and progress in their knowledge from the topics presented in those other courses which are taught concurrently with the history and physical examination II course. Students will practice history and physical examination techniques in the history and physical examination laboratory and the clinical simulation laboratory. Simulated patients will be utilized for this course in order to assess the student's ability to professionally interact with these patients in a culturally competent and caring method.

**Prerequisite:** PAS 716 . Open to students enrolled in the physician assistant curriculum; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 723

#### PAS 718: History and Physical Examination III

2 Credits

Students perform and integrate the results of history, physical and laboratory findings to arrive at an accurate working diagnosis. PAS 718 History and Physical Examination III (2) A continuation of PAS 716 and PAS 717. Students begin to integrate the results of history, physical and laboratory findings to arrive at an accurate evaluation of the patient so that a working diagnosis can be established. Students will perform both

directed and comprehensive histories and physical examinations and prepare patient notes from these findings. Course emphasis will be on interpersonal communication between the physician assistant student and the patient in a culturally competent and caring, patient-centered empathetic manner. Students will gather patient information, organize this data, and arrive at differential diagnoses based upon the information that has been gathered for patients who present with complaints related to their cardiac and pulmonary systems. This class will complement the topic areas that are covered during the integrated clinical medicine, pathophysiology, and pharmacologic courses. Students will be able to apply knowledge and progress in their knowledge from the topics presented in those other courses which are taught concurrently with the history and physical examination II course. Students will practice history and physical examination techniques in the history and physical examination laboratory and the clinical simulation laboratory. Simulated patients will be utilized for this course in order to assess the student's ability to professionally interact with these patients in a culturally competent and caring method.

**Prerequisite:** PAS 716 , PAS 717 . Third semester student in the preclinical Penn State Physician Assistant Program; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 , PAS 715 , PAS 726

#### PAS 719: Evidence-Based Medicine

1 Credits

Course covers statistics, medical literature searches, formulating PICO (Population, Intervention, Comparison and Outcomes) questions and knowledge application in clinical practice. PAS 719 Evidence-Based Medicine (1) Evidence-based Medicine (PAS719) is a mandatory 14 week course given during the first year of the curriculum consisting of 14 two hour sessions. The course will be held on Fridays from 1-3 pm during the fall semester. Multiple learning environments will be utilized including didactic sessions, TBL, small group learning and standardized patient exercises. Students will be taught relevant statistics, how to utilize the medical literature, formulation of PICO (Population, Intervention, Comparison and Outcomes) questions and, most importantly, application of their knowledge at the point of care for patient care. Course faculty will be multi-disciplinary and include physicians and library staff who have taught such courses in the College of Medicine to medical students for a number of years. This course is intended to instruct the physician assistant student in how to find and interpret the medical literature. As a result of this course, students will be able to frame the clinical question, perform literature searches at the point of care, and be able to guide patients into making informed choices about their care based upon medical evidence. As a result of this course, students will be able to search for information regarding best practice of care and students will gain the ability to sift through what various clinical trials mean for translational medicine. Students will be provided opportunities to perform point of care evidence searches at the point of care during this class so that this skill can be translated to their clinical experiences as both a student in the clinical phase of the PA program and also as practicing physician assistants. Assessment methods will include practical experience in searching the medical literature, exercises with standardized patients with developing the clinical question and applying evidence-based medicine point of care techniques. Students will be detailed on the standards for passing this course on the course syllabi. Grading for this course will be from the instructors and peers taking this course. This course is a required course for physician assistant education, as determined by the national accrediting agency for physician assistants. Learning outcomes for each of the teaching sessions will be

provided to the student electronically through the academic management system such as Angel.

**Prerequisite:** completion of Summer semester; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 717

#### PAS 720: Pediatric Studies

1 Credits

This course will prepare students for their role in the evaluation and management of the pediatric population.

**Prerequisite:** Physician assistant student who meets the criteria for entry into the physician assistant program at Penn State College of Medicine PA program; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 710 , PAS 713 , PAS 716

#### PAS 721: US Health Care System/Legal Medicine

1 Credits

This course is intended to introduce the graduate physician assistant to the health care delivery system in the United States with reference to how the physician assistant profession fits into this system for providing accessible, comprehensive, and cost-effective care. This course will also cover the legal aspect involved with medical practice.

**Prerequisite:** First semester student in the preclinical phase of the Penn State Physician Assistant Program, having fulfilled all of the requirements for program entry.; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 710 , PAS 713 , PAS 71

#### PAS 722: Principles of Human Sexuality and Reproductive Health

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Human Sexuality and Reproductive Health course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of reproductive health diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**Prerequisite:** Student admitted to the preclinical physician assistant program having fulfilled the requirements for admission to this program; Concurrent: PAS 701, PAS 704 , PAS 707 , PAS 710 , PAS 713 , PAS 716

#### PAS 723: Principles of Behavioral Medicine

2 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Behavioral Medicine course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology,

risk factors, clinical manifestations, diagnosis, treatment, and prevention of behavioral medicine conditions encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation

**Prerequisite:** Completion of Summer semester. Physician Assistant Student in the pre-clinical portion of the PA program.; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 717

#### PAS 724: Laboratory Interpretive Methods

##### 1 Credits

The course will cover indications, contraindication, and interpretation of laboratory studies for evaluating or confirming clinical disease states. PAS 724 Laboratory Interpretive Methods (1) The course will cover common laboratory procedures employed in clinical practice. Discussion will take place which will allow the students to carefully select appropriate laboratory tests based upon clinical presentation of the patient along with the sensitivity and specificity of the tests themselves. Students will determine the appropriate indications and contraindications for ordering tests based primarily on evidence-based support for those tests. After the student gains insight into the appropriate ordering of these tests, the course instruction will emphasize the interpretation of these tests along with the ability to inform patients about what these test results mean for the patient. Students will gain an ability to provide rationale behind why tests are or are not indicated, based upon the clinical presentation of the patient. Students will develop proficiency in analyzing CBC, urinalysis, gram stains, and cultures. Students develop skills in interpreting clinical laboratory values in relation to disease, therapy, and prognosis. Topics include hematology, serology, clinical chemistry, and microbiology. The student will also gain experience in evaluating clinical laboratory cases. The emphasis of the course will be on the student being able to order appropriate clinical tests based upon the differential diagnosis of the clinical patient. This class, like many others in the curriculum, has the intention of enhancing student learning in order to taking care of patients and becoming a competent provider for patients who need our assistance. As part of our integrated curriculum, laboratory ordering and interpretation will help to close the loop for the various conditions that are discussed during the clinical medicine lecture series. Since this is a one semester course, laboratory studies will encompass the entire breadth of the clinical sections that will be covered in our longitudinal curriculum. This course will be offered every fall semester which is the second semester in the pre-clinical curriculum. Thirty students per semester will be enrolled in this class.

**Prerequisite:** Pre-Clinical Physician Assistant Student in the second semester of the PA program.; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 717

#### PAS 725: Physician Assistant Professional Practice

##### 1 Credits

Students learn the history and the professional roles of the physician assistant profession plus licensing and requirements of this profession.

PAS 725 Physician Assistant Professional Practice (1) Students will learn the history of the PA profession, the roles of the PAs in current practice, and current issues facing the PA profession. In addition, students will become familiar with the professional standing and requirements for PA practice, where and how to locate professionally-relevant material, and the legal requirements related to the PA profession and medical practice, in general. Students will be provided with the basic information regarding licensure, credentialing, and certification requirements. Students will be provided information regarding the uniqueness of this profession among all of the other health professions. Employment opportunities and practice requirements will be discussed as part of this class. The role of the electronic medical record in today's healthcare delivery system will be discussed as well as demonstration of utilization of this electronic resource. Discussion will take place which will involve the emerging changes that are occurring within this profession. Debate will take place regarding the move toward specialty examinations in order to attain certificate of added qualifications. Students will be apprised of the new requirements for maintaining certification, namely the project improvement and self-assessment processes. This is a stand-alone course which is offered during the second semester of the preclinical phase of the PA program. Documentation on the electronic medical record will be discussed and this strategy will coincide with the history and physical examination courses which emphasize the collection of this patient-related data. Evaluation of the student will typically be by written examination. Testing methods will primarily be in the form of multiple choice questions based upon knowledge about this profession that the student will enter upon graduation. Students will be expected to demonstrate an appropriate level of knowledge which will be vital in obtaining licensure and certification following completion of this program. This course will be held in a lecture type of classroom in a large group discussion format. This course will be offered every summer semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort.

**Prerequisite:** Second semester student in the physician assistant program, having fulfilled all the requirements for the PA program.; Concurrent: PAS 702, PAS 705 , PAS 708 , PAS 711 , PAS 714 , PAS 717

#### PAS 726: Advanced Cardiac Life Support

##### 1 Credits

Current methods and practices in advanced cardiac life support and emergency intervention will be discussed. PAS 726 Advanced Cardiac Life Support (1) Current methods and practices in advanced emergency intervention will be discussed. Topics include rapid patient assessment, CPR, intubation, intravenous and interosseous medication administration, application of an external pacemaker, use of an automated external defibrillator, and defibrillation protocols. Simulation will be utilized during the course and students will have ample time for practice. Arrangements for small group sessions can be made at the request of the student and the instructor. Megacode practice along with practice of various cardiovascular skills will be included as part of this class. Evaluation of the student will typically be by written and practical examination. Testing methods will primarily be in the form of multiple choice questions based upon clinically relevant and authentic case scenarios. Students will be expected to demonstrate an appropriate level of knowledge along with the ability to apply this knowledge in a clinical case scenario type of presentation. Students will need to demonstrate an ability to develop a differential and most likely diagnosis, use history and physical examination findings to make diagnoses and clinical decisions, identify clinical interventional strategies, perform clinical therapeutics, and apply

scientific knowledge in order to describe the underlying pathology for these various conditions. Students will also be given an opportunity to demonstrate actual practice of these clinical skills in the simulation laboratory. The clinical skills laboratory is also available to the students for additional practice 24 hours per day. Since this course requires hands-on practical application of care, this course will require demonstration of these techniques. This course will be held in a lecture type of classroom in a large group discussion format and also the clinical simulation laboratory. This course will be offered every summer semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort. The notes for this class will be fully available on ABLE. Various EKGs and pictures are part of the discussion and students will be given the opportunity to view these notes and pictures on ABLE since these pictures do not copy on handouts. Students should realize the cross-over of material between this course and the EKG interpretation course. Therefore, they should be very flexible in the Monday and Friday afternoon time frames for the purposes of integration of this material.

**Prerequisite:** Successful completion of first two semesters of the preclinical training. Basic life support is also a requirement for entrance into this course (student completed the basic life support requirement during the PA program orientation).

#### PAS 727: Clinical Skills

2 Credits/Maximum of 2

This course will develop skills in performing routine therapeutic procedures to treat common disease entities. PAS 727 Clinical Skills (1) This course will develop skills in performing routine therapeutic procedures to treat common disease entities. It will include discussion of indications, contraindications, and complications of the various procedures. This course will discuss aseptic techniques, communication skills to be utilized when performing procedures on patients, and the need for obtaining informed consent and how to perform an appropriate "time out" before performing the procedure. The format will be a combination of lecture, demonstration of skills, discussion of procedures, and student practice of skills. Evaluation of the student will typically be by written and practical examination. Testing methods will primarily be in the form of multiple choice questions based upon clinically relevant and authentic case scenarios. Students will be expected to demonstrate an appropriate level of knowledge along with the ability to apply this knowledge in a clinical case scenario type of presentation. Students will need to demonstrate the hands-on care for performing procedures that are expected of clinically practicing physician assistant students. This course will be held in a lecture type of classroom in a large group discussion format. This course will be offered every summer semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort.

**Concurrent:** PAS 701, 702, 704, 707, 710, 713, 716, 724, 727

#### PAS 728: EKG Interpretive Methods

1 Credits

This course is a study of electrocardiographic (EKG) interpretation that may be used as part of the diagnostic evaluation process. PAS 728 EKG Interpretive Methods (1) This course is a study of electrocardiographic (EKG) interpretation that may be used to diagnose common pathologies, confirm diagnoses, and screen for the presence of abnormalities. This course is not all-inclusive, but rather, is an introduction to the art of

the interpretation of EKG. We will differentiate between normal and abnormal diagnostic studies, and discuss the process of interpreting and evaluating common abnormalities and disorders. Topics include the elements of basic EKG and x-ray interpretation. For the EKG component, this includes rate, rhythm and axis determination, the recognition of arrhythmias and conduction abnormalities, and the changes seen with myocardial ischemia and infarction. There will be a clear connection between the EKG findings and the clinical presentation for these findings. EKG must always be interpreted in light of the patient's clinical presentation and this adage will be emphasized as part of this class. Evaluation of the student will typically be by written examination and actual interpretation of both rhythm strips and 12-lead EKGs. Testing methods will primarily be in the form of multiple choice questions based upon clinically relevant and authentic case scenarios. Students will be expected to demonstrate an appropriate level of knowledge along with the ability to apply this knowledge in a clinical case scenario type of presentation. Students will be asked specific questions on these EKGs and full interpretation of these electrocardiograms will also be included as part of this assessment. This course will be held in a lecture type of classroom in a large group discussion format. There will be ample time for EKG discussion based upon the clinical scenarios of the patients with these findings. This course will be offered every summer semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort.

**Prerequisite:** Completion of the summer and fall preclinical semesters in the physician assistant program.; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 , PAS 715 , PAS 718

#### PAS 729: Principles of Emergency Medicine

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Emergency Medicine course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of emergent medical and traumatic conditions encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in emergency medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**Prerequisite:** completion of Summer and Fall semesters; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 , PAS 715 , PAS 718

#### PAS 730: PA Fundamentals of Health Humanities

1 Credits/Maximum of 1

The PA Fundamentals of Health Humanities course focuses on issues of pressing social interest, including structural inequities like racism and discrimination in medicine, justice, and unconscious bias. The course also introduces learners to important humanities skills (close reading) and knowledge (ethical principles, conceptions of trust). A primary conceptual framework that guides health care ethics is the social

construction of reality. Our worlds are both biologically and socially constructed. Biological construction addresses how our bodies work as organisms, why we are healthy or sick, and how to treat illness so that we can become well. Social construction addresses the social worlds, values, and stories that we create to sustain ourselves as individuals, families, and communities. The social construction framework explains the way our minds perceive reality and shape it. If we understand how our realities are constructed, we can find ways to change those realities that are harmful—either by creating biochemical treatments to fight disease or to identify and then alter behaviors that lead to discriminatory practices. Medicine as a profession engages both biological and social construction. We know that certain elements of our social worlds—racism, for example—biologically affect the health of those who are discriminated against. This is one element of the stress response. But the social world, a world of organizations, values, stories, and traditions, is just as important in treating people and making them well as health care ethics and other elements combined to engage the world.

**Concurrent:** PAS 736 Introductory Concepts in Medicine, PAS 763 Principles of Immunology, Hematology and Oncology, PAS 784 Principles of Dermatology, PAS 785 Principles of Infectious Disease, PAS 786 Principles of Ophthalmology and Otolaryngology

#### PAS 731: Radiology Interpretive Methods

1 Credits

This course prepares students for ordering and interpreting radiographic images used to diagnose common pathologies, confirm diagnoses, and perform screenings. PAS 731 Radiology Interpretive Methods (1) This course prepares graduate physician assistant students for ordering and interpreting radiographic (x-ray) images that are used to diagnose common pathologies, confirm diagnoses, and screen for the presence of abnormalities. This course is not all-inclusive, but rather, is an introduction to the art of the interpretation of the x-ray. We will differentiate between normal and abnormal diagnostic studies, and discuss the process of interpreting and evaluating common abnormalities and disorders. There will be an overview of basic organ systems with the following considerations: technical (choice of imaging techniques available), anatomic (review of basic landmarks), and common pathophysiologic alterations (how are these directly and/or indirectly found).

**Prerequisite:** Third semester pre-clinical student in the Penn State PA program. Third course in the interpretive sequence.; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 , PAS 715 , PAS 718

#### PAS 732: Emergency Medicine Rotation I

5 Credits/Maximum of 5

PAS 732 Emergency Medicine is a mandatory clinical rotation, which involves the evaluation and management of patients who present for care in an emergency medicine setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients with an acute life-threatening event. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in an emergency medicine setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how

emergency medicine departments function in the overall delivery of health care services within the US Health care delivery system. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have complex and urgent health care needs. Students will also gain exposure to the patient care mix for people who are presenting to an emergency medicine setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 733: Emergency Medicine II Elective

5 Credits/Maximum of 5

Emergency Medicine II (PAS 733) is an elective clinical rotation which involves the evaluation and management of patients who present for care in an emergency medicine setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients with an acute life-threatening event. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in an emergency medicine setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how emergency medicine departments function in the overall delivery of health care services within the US Health care delivery system. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have complex and urgent health care needs. Students will also gain exposure to the patient care mix for people who are presenting to an emergency medicine setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. Successful completion of PAS 732.; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinica

#### PAS 734: Family Medicine Rotation I

5 Credits/Maximum of 5

PAS 734 Family Medicine Rotation I is a foundational course for primary care practice. This course will provide the basis for establishing care of patients throughout their lifespan, from newborn to geriatric care. This rotation involves outpatient management, evaluation, examination of patients and involves students developing differential diagnoses, clinical intervention, the ordering and/or interpretation of diagnostic studies, and development of a treatment plan which is based upon the patient's presenting complaint and current and past problems. Students will make recommendations for treatment involving pharmacology intervention based upon standard of care principles. Students will obtain histories on these patients, perform directed and complete physical examinations, and will present these findings to the clinical preceptors at the site. Students will gain experience with documenting their findings in both written and verbal communication to their preceptors. Students will

develop rapport with their patients and develop their skills in patient communication, cultural competency, and patient education.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This rotation is offered under the umbrella of primary care experiences and is a hallmark for the educational goals for our PA Program

#### PAS 735: Ambulatory Care Selective

5 Credits/Maximum of 5

The core of clinical experiences for this rotation will occur in an ambulatory care setting for patients who present for the evaluation of acute, subacute, and chronic conditions to healthcare providers. Students should be expected to be able to initially evaluate the patient, perform wellness screens for all patient entities, and develop an evaluation and treatment plan based upon the differential diagnosis that is developed. The student will then discuss the patient's complaints and findings with the supervising licensed health care provider and a treatment plan will be developed. The student should become adept in patient presentation skills, obtaining a pertinent history and physical, and develop a management plan. The student should then communicate to the patient the most likely diagnosis and educate the patient with regard to prevention and treatment modalities.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This rotation is offered under the umbrella of primary care experiences and is a hallmark for the educational goals for our PA Program

#### PAS 736: Introductory Concepts in Medicine

2 Credits

This course includes a variety of introductory concepts necessary for further study within the PA program; including the history and development of the physician assistant profession, medical terminology, pharmacokinetics, pharmacodynamics, pharmacogenetics, basics of prescription writing and medical dose calculations, HIPAA, OSHA, informed consent, and PA prescribing privileges. Students will discuss the basics of laboratory medicine; including sensitivity and specificity, precision and accuracy, negative and positive predictive value, screening and confirmatory tests, reference range, therapeutic range, therapeutic index. Students will also assess general vital signs and discuss normal and abnormal growth and development. Through this course, students will develop the skills necessary to build rapport and establish a patient-provider relationship, perform a basic medical history, and learn about general medical documentation requirements.

#### PAS 737: General Surgery Rotation I

5 Credits/Maximum of 5

PAS 737 General Surgery is a mandatory clinical rotation that will provide students with the requisite knowledge and clinical experiences for treating patients in the surgical setting. Prepares physician assistant students to function in all aspects of surgical medicine. Students are introduced to surgical disorders commonly encountered in various settings by the physician assistant. Students gain familiarity with preoperative and postoperative patient care, assisting in the operating room, performing exams and surgical procedures. Students develop medical, technical and interpersonal skills to provide care to surgical patients as well as communicate with patients, family members and other members of the health care team. Requires direct supervision

by clinical instructors. Emphasis will be placed on initial assessment, physical examination, and perioperative evaluations). When appropriate, the student follows individual patients whose cases are particularly instructive.

#### PAS 738: General Surgery Rotation II

4 Credits

PAS 738 is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a surgical complaint or a patient who is treated in the surgical setting. Students will assist in the operating room and will perform history and physical examinations and surgical consults for patients with a potential surgical complaint. Students will be part of the preoperative planning for a patient about to undergo surgery which includes the identification of indications and contraindications for a patient about to undergo surgery. Students will also play a role in the postoperative management of patients who have undergone surgery. These exposures that the students have during this rotation will prepare them for their clinical role in taking care of patients throughout their lifespan in various types of clinical settings which includes the care of surgical patients and operative interventions.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 739: Inpatient Internal Medicine Rotation I

5 Credits/Maximum of 5

PAS 739 Inpatient Internal Medicine is mandatory inpatient clinical rotation, which provides clinical education for students taking care of the adult population. The ultimate goal for students at the end of the clinical educational training is to have students capable of caring for patients throughout their lifespan and this rotational experience provides the student with educational experiences for the adult population which includes the geriatric population. During this rotation each student will also receive a site visit from the Clinical Coordinator.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 740: Internal Medicine Rotation II

4 Credits

This second internal medicine clinical rotation provides clinical education for students taking care of the adult population. This course is a natural extension of the first internal medicine course, PAS 739. The ultimate goal for students at the end of the clinical educational training is to have students capable of caring for patients throughout their lifespan and this rotational experience provides the student with educational experiences for the adult population which includes the geriatric population. Goals for this rotation include having the student identify, describe and perform the appropriate clinical evaluation including performance of a physical examination, the development of differential diagnosis, the selection of appropriate diagnostic studies, the development of treatment plans including proper referrals, and performing patient education. Students will gain proficiency in performing oral case presentations and documenting

history and physical examination findings. Students will also gain experience with writing admission and hospital orders and discharge summaries, as appropriate according to the setting. The student will gain experience identifying normal and abnormal laboratory values as well as the appropriate use of radiologic and other diagnostic modalities as part of the diagnostic evaluation of the patient.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This is the second course in the primary care sequence. This course will occur following the completion of the first internal medicine

#### PAS 741: Behavioral Health Rotation I

5 Credits/Maximum of 5

PAS 741 Behavioral Health Rotation is a mandatory clinical rotation in the clinical curriculum. This course and rotation provides clinical experiences for students in inpatient and outpatient settings where the student will encounter patients with a mental health or psychological complaint.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 742: Mental Health Rotation II

4 Credits

PAS 742 Mental Health Rotation II is an elective course in the clinical curriculum. This course and rotation provides clinical experiences for students in inpatient and outpatient settings where the student will encounter patients with a mental health or psychological complaint. Students will become acquainted with manifestations of various forms of psychopathology. The emphasis of this course is the performance of a complete psychiatric examination which includes the performance of a mental state examination. Students will develop the ability to classify patients with a psychiatric complaint according to the Axis classification. Students will develop the ability to manage psychosocial problems that the patients face along with the ability to navigate the health care system and get these patients much-needed support in the community. This clinical experience integrates previous learning and actual clinical practice, while working on hospital wards and outpatient clinics. It emphasizes the behavioral and psychosocial aspects of mental illness. Students will be able to apply what was learned in the preclinical educational curriculum during the behavioral medicine course with the actual practice which deals with caring for patients with a mental health or psychosocial complaint. Students will be given patient navigation experience from both a specialty and primary care perspective and will gain an appreciation as to how emotional stress and mental illness can impact the entire patient and not just the brain of the patient. Students will educate patients and their families on the psychosocial elements and physiologic processes that occur in the setting of psychiatric disease. This course meets the overall program goal of addressing psychosocial needs of our patients in various settings and with various complaints throughout the lifespan.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 743: Pediatrics I

5 Credits/Maximum of 5

PAS 743 Pediatrics is a mandatory clinical rotation that will cover the basic principles of preventive care ranging from neonate to adolescent and treat common pediatric complaints. At the end of this rotation PA student should be able to identify normal and abnormal development patterns in all of these age groups. Students will gain the ability to provide anticipatory guidance in order to care for neonates to adolescents. Care delivery will include nutrition, safety and immunizations. Students will be trained to detect signs of possible child abuse. Students will be able to identify and demonstrate an understanding of community resources available to the caregiver.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 744: Pediatrics II Elective

5 Credits/Maximum of 5

PAS 744 is an elective clinical rotation that will cover the basic principles of preventive care ranging from neonate to adolescent. Be able to identify normal and abnormal development patterns in all of these age groups. Students will gain the ability to provide anticipatory guidance and teaching in order to care for neonates to adolescents. Care delivery will include nutrition, accident prevention and immunization. Students will be trained to detect signs of possible child abuse. Students will be able to identify and demonstrate an understanding of community resources available to the caregiver.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 745: Reproductive Health I

5 Credits/Maximum of 5

PAS 745 Women's Health Rotation is a mandatory clinical rotation that will prepare students to provide high quality care while treating the female population from the teenage patient through the geriatric female. Students will develop the ability to evaluate, manage, treat, and educate the female patient, including the areas of contraception, pregnancy, prenatal and postpartum care, and menopause. The student will utilize critical thinking, history taking and physical exam skills, and use diagnostic tests, as appropriate, in order to effectively create a plan of care for the female patient. The student will perform or assist in procedures utilized in women's health. Students will communicate with women in a respectful and sensitive manner. Requires direct supervision by clinical instructors.

#### PAS 746: Women's Health II Elective

5 Credits/Maximum of 5

PAS 746 Women's Health Rotation is an elective 5 week clinical rotation that will provide students with experience in assessing, examining, evaluating, and treating the female population from the teenage population through the geriatric female.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters. Since stud

#### PAS 747: Internal Medicine III Rotation

4 Credits

This third internal medicine clinical rotation provides clinical education for students taking care of the adult population. This course is a natural extension of the first two internal medicine courses, PAS 739 and PAS 740. This course is available for the students to take as an elective course. This elective course is directed at students who wish to pursue career training in the primary care sector. The ultimate goal for students at the end of the clinical educational training is to have students capable of caring for patients throughout their lifespan and this rotational experience provides the student with educational experiences for the adult population which includes the geriatric population. Goals for this rotation include having the student identify, describe and perform the appropriate clinical evaluation including performance of a physical examination, the development of differential diagnosis, the selection of appropriate diagnostic studies, the development of treatment plans including proper referrals, and performing patient education. Students will gain proficiency in performing oral case presentations and documenting history and physical examination findings. Students will also gain experience with writing admission and hospital orders and discharge summaries, as appropriate according to the setting. The student will gain experience identifying normal and abnormal laboratory values as well as the appropriate use of radiologic and other diagnostic modalities as part of the diagnostic evaluation of the patient.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This is the second course in the primary care sequence. This course will occur following the completion of the first two internal medi

#### PAS 748: Family Medicine III Elective

5 Credits/Maximum of 5

Family Medicine Rotations (PAS 748) is an elective rotation which will consist of outpatient evaluation of patients of all ages from newborn to geriatric. These patients will present with acute, subacute, and chronic conditions to the primary care provider. The student will gain experience in seeing patients from different demographics who will have a wide range of presentations and complaints. The majority of the clinical experiences will occur in an ambulatory setting, either outpatient or urgent care. Students are expected to be able to initially evaluate the patient, perform wellness screens for all patient entities, and develop an evaluation and treatment plan based upon the differential diagnosis that is developed. The student will then discuss the patient's complaints and findings with the supervising licensed health care provider and a treatment plan will be developed. The student should become adept in patient presentation skills, obtaining a pertinent history and physical, and develop a management plan. The student should then communicate to the patient the patient's most likely diagnosis and educate the patient with regard to prevention and treatment modalities. The family medicine rotation should provide experiences in ordering laboratory tests, imaging, and electrocardiograms with the interpretation of these findings also being an expected competency for this rotation.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This rotation is offered under

the umbrella of primary care experiences and is a hallmark for the educational goals for our PA Program

#### PAS 749: Endocrinology I Elective

5 Credits/Maximum of 5

PAS 749, Endocrinology is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with an endocrinology complaint or a patient who is treated in the endocrinology setting. Students may assist in the endocrinology suite and will perform history and physical examinations and medical consultations for patients with an endocrinology complaint. Students may be part of the preoperative planning for a patient about to undergo surgery which includes the identification of indications and contraindications for a patient about to undergo surgery. Students may also play a role in the postoperative management of patients who have undergone surgery who have high endocrinology risk or endocrinology complications. These exposures that the students have during this rotation will prepare them for their clinical role in taking care of patients throughout their lifespan in various types of clinical settings which includes the care of the patient with an endocrinology complaint or complication.

**Prerequisite(s):** Completion of Preclinical curriculum courses

#### PAS 750: Gastroenterology I Elective

5 Credits/Maximum of 5

PAS 750 Gastroenterology is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a GI complaint. This rotation will provide students with an opportunity to evaluate, exam, manage, and educate patients who have a complaint related to their gastroenterology/hepatology system. The student will gain experience in the management of patients with gastroenterologic disease on an acute and chronic basis. Patients may be evaluated in both an inpatient and/or outpatient setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

#### PAS 751: Ear, Nose and Throat Elective Rotation

5 Credits/Maximum of 5

PAS 751 ENT is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with an ears, nose or throat complaint for a patient in the otorhinolaryngology setting. Students may assist with procedures and will perform history and physical examinations and medical consultations for patients with ears, nose and throat related complaints. Students may be part of the pre-treatment planning for a patient who requires surgery which includes the identification of indications and contraindications for a patient about to undergo surgery. Students may also play a role in the post treatment management of patients who have undergone ear, nose and throat related treatments. The exposures that the students have during this rotation will prepare them for their clinical role in taking care of patients throughout their lifespan in various types of clinical settings, which includes the care of the patient in the otorhinolaryngology setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 752: Hematology & Oncology Elective Rotation

5 Credits/Maximum of 5

PAS 752 Hematology Oncology is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a hematological or oncological complaint and for a patient who is treated in the hematology and oncology setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 753: Orthopedics & Sports Medicine I Elective

5 Credits/Maximum of 5

PAS 753 Orthopedics I is an elective rotation offered in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students a five-week elective in Orthopedics. This course will assist in preparing the student to care for patients with a musculoskeletal complaint or a patient who is treated in the orthopedic setting. Students during this rotation may expect to evaluate and treat patients in both the outpatient clinical setting as well as inpatient, operating room and potentially the Emergency Department for consultations as needed.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 754: Trauma I Elective

5 Credits/Maximum of 5

PAS 754 Trauma is an elective course in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with an opportunity to evaluate and manage patients who present for care in a trauma setting. Students will gain experience in their ability to evaluate, examine, manage, and educate patients who have a complaint related to a traumatic injury.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 755: Dermatology Elective

5 Credits/Maximum of 5

PAS 755 Dermatology is an elective course which involves the evaluation and management of patients who present for care in a dermatologic setting. Students will gain experience in their ability to evaluate, examine, manage, and educate patients who have a complaint related to the integumentary system. Students will gain proficiency in identifying patients with clinical presentations of lesions that may need more immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how dermatologic practices function in the overall delivery of health care services within the US Health care delivery system.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 756: Summative Experience

1 Credits

This course is a capstone course that will provide the final comprehensive assessment for students prior to graduation.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum; Concurrent: The student will ordinarily have completed both the pre-clinical and clinical training in the PA program with this class pro

PAS 757: Interventional Radiology Elective

5 Credits/Maximum of 5

PAS 757 Interventional Radiology is an elective course which involves the evaluation and management of patients who present for care in an interventional radiologic setting. Students will gain experience in their ability to evaluate, and manage patients in Interventional Radiology. Students will gain an appreciation of how care is delivered in an Interventional Radiology setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 758: Cardiology Elective

5 Credits/Maximum of 5

PAS 758 Cardiology is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with an opportunity to evaluate, exam, manage, and educate patients who have a complaint related to their cardiovascular system. The student will gain experience in the management of patients with cardiovascular disease on an acute and chronic basis. Patients may be evaluated in both an inpatient and/or outpatient setting.

PAS 759: Plastic and Reconstructive Surgery I Elective

5 Credits/Maximum of 5

PAS 759 Plastic and Reconstructive Surgery is a 4 week elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a plastic and reconstructive surgery complaint treated in the plastic and reconstructive surgery setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 760: Cardiothoracic Surgery I Elective

5 Credits/Maximum of 5

PAS 760 Cardiothoracic (CT) Surgery I is an optional course offered as an elective Cardiothoracic (CT) Surgery rotation which involves the evaluation and management of patients who present for care in a Cardiothoracic (CT) Surgery setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in a Cardiothoracic (CT) Surgery setting. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in a Cardiothoracic (CT) Surgery setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how Cardiothoracic (CT) Surgery departments function in the overall delivery of health care services within the US Health care delivery system. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have complex and urgent health care needs. Students will also gain exposure to the patient

care mix for people who are presenting to a Cardiothoracic (CT) Surgery setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. **CONCURRENT:** The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters.

PAS 761: Neurology Elective

5 Credits/Maximum of 5

PAS 761 Neurology is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a neurology complaint for a patient who is treated in the neurology setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 762: Critical Care Medicine I Elective

5 Credits/Maximum of 5

PAS 762 Critical Care Medicine I is as an elective rotation which involves the evaluation and management of patients who present for care in a Critical Care Medicine setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in a Critical Care Medicine setting. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in a Critical Care Medicine setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how Critical Care Medicine departments function in the overall delivery of health care services within the US Health care delivery system.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. **CONCURRENT:** The student will be enrolled in three clinical preceptorships during each of the clinical educational semesters.

PAS 763: Principles of Immunology, Hematology and Oncology

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Immunology, Hematology, and Oncology course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of immunologic, hematologic, and oncologic diseases encountered in patients across the lifespan. The immunology portion of the course includes education on the various immune system cell types and their important functions in innate and adaptive immunity. Congenital and acquired immunodeficiency syndromes will be taught in contrast to normal immune system function. Additionally, hypersensitivity reactions and common allergic conditions will be discussed. The hematology section of the course covers the basic principles of hematology; including the structure and function of the cells and organs related to the hematologic system, while exploring

the features of hematological diseases. The oncology section of the course covers the general principles of oncology; including the origin, development, staging, and treatment of tumors. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

PAS 764: Palliative Medicine I Elective

5 Credits/Maximum of 5

PAS 764 Palliative Medicine is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with an opportunity which involves the evaluation and management of patients who present for care in a Palliative Medicine setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in a Palliative Medicine setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 765: Burn Care Elective Rotation

5 Credits/Maximum of 5

PAS 765 is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a burn injury or specific skin condition. Students may assist in the operating room and will perform history and physical examinations and medical consultations for patients with burn injuries. Students may be part of the preoperative planning for a patient about to undergo surgery which includes the identification of indications and contraindications for a patient about to undergo surgery. Students may also play a role in the postoperative management of patients who have undergone surgery.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 766: Urgent Care I Rotation

5 Credits/Maximum of 5

PAS 766 Urgent care I is an optional course that falls under the ambulatory care rotation which involves the evaluation and management of patients who present for care in an urgent care setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in an urgent care setting. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in an urgent care setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how urgent care departments function in the overall delivery of health care services within the US Health care delivery system. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have complex and urgent health care needs. Students will also

gain exposure to the patient care mix for people who are presenting to an urgent care setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 767: Urgent Care II Elective Rotation

4 Credits

PAS 767 Urgent Care II is as an elective rotation which involves the evaluation and management of patients who present for care in an Urgent Care setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in a Urgent Care setting. Students will gain proficiency in identifying patients with clinical presentations that need immediate attention and those conditions which can be treated in a less urgent manner. Students will gain an appreciation of how care is delivered in an Urgent Care setting which has significant differences from the care that is rendered in other health care settings, for example, the immediate availability of clinical interventions such as diagnostic imaging, electrocardiography, laboratory studies, and the availability of consultants such as surgeons and trauma personnel. Students will gain an appreciation of how Urgent Care departments function in the overall delivery of health care services within the US Health care delivery system. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have complex and urgent health care needs. Students will also gain exposure to the patient care mix for people who are presenting to an Urgent Care setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 768: Infectious Disease Elective

5 Credits/Maximum of 5

PAS 768 is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with an infectious disease complaint.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. Concurrent: Each clinical rotation is 4 weeks in length and worth 4 credits.

PAS 769: Neurosurgery I Elective

5 Credits/Maximum of 5

PAS 769 is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a neurology complaint who referred for treatment in the neurosurgery setting. Students may assist with procedures and will perform history and physical examinations and medical consultations for patients with a neurosurgery related complaint. Students may be part of the pre-treatment planning for a patient about to undergo neurosurgery which includes the identification of indications and contraindications for a patient with a neurological condition. Students may also play a role in the post treatment management of patients who have undergone related surgical procedures. The exposures that the students have during this rotation will prepare them for their clinical role in taking care of patients throughout their lifespan in various types of clinical and surgical

settings which includes the care of the patient with a neurological related complaint that may require surgical intervention.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 770: Nephrology Elective

5 Credits/Maximum of 5

PAS 770 is an elective rotation in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students with the requisite knowledge and clinical experiences for preparing the student to care for patients with a nephrology complaint.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 771: Critical Thinking and Reasoning

1 Credits/Maximum of 1

This course provides meaningful discussion of common patient presentations in various clinical settings. Students will apply critical thinking and reasoning skills in developing evaluation strategies, differential diagnoses, treatment plans, and patient education strategies based upon patient presentations in each scenario. With student group discussions facilitated by faculty, students can adjust their thought processes based upon further case scenario information that is presented as the case evolves. Course will be four week in length with group meetings taking place in at least three of those four weeks. Students will also independently work through selected case scenarios that are written in order to develop critical thinking and reasoning. As students progress through these cases, they will address bias and premature closure. Course is an elective which students can take in both the preclinical and clinical portions of the PA curriculum. Course is offered on a pass/fail basis.

**Prerequisite(s):** Completion of Preclinical curriculum courses

PAS 772: Topics in At-Risk Populations

1 Credits

The focus of this Topics course is designed to highlight healthcare needs of a variety of at risk populations including detecting and reporting child and elderly abuse and Act 31 certification, opioid use disorders and opioid training certification, Medications for Addiction Treatment certification, stroke detection and NIHSS Group B certification. The course will also include current public health initiatives and humanities in medicine topics.

PAS 773: Career Exploration and Synthesis I

1-2 Credits/Maximum of 2

PAS 773 Career Exploration and Synthesis I will be completed by all clinical year physician assistant students during their first or second semester of the clinical phase. Each selective is a clinical experience in a medical or surgical discipline of their choice. Students will explore various career options, extend clinical experiences and synthesize material they have learned, and allow for individualization of learning in the rotations. This course is designed to provide students a brief experience in a subspecialty of their choice to further knowledge and technical skills. This course will help students in their professional role development, as they will be exposed to a select area briefly, yet in depth. Each of these experiences will be unique.

**PAS 774: Career Exploration and Synthesis II****1-2 Credits/Maximum of 2**

PAS 774 Career Exploration and Synthesis II will be completed by all clinical year students during the third semester of the clinical phase. Each selective is a clinical experience in a medical or surgical discipline of their choice. Students will explore various career options, extend clinical experiences and synthesize material they have learned, and allow for individualization of learning in the rotations. This course is designed to provide students a brief experience in a subspecialty of their choice to further knowledge and technical skills. This course will help students in their professional role development, as they will be exposed to a select area briefly, yet in depth. Each of these experiences will be unique.

**PAS 776: Medicine Specialty Rotation****5 Credits/Maximum of 5**

The goal of this elective rotation is to give the student additional medical training during the clinical year in a specialty related to their area of interest. During this rotation, the student will develop a fundamental knowledge base in major disease processes in the assigned medical specialty. They will improve upon their clinical decision-making skills and the ability to acquire, interpret, synthesize, and record clinical information required to define, understand, and manage patient problems in the assigned medical specialty. They will improve the skills necessary to present patients to faculty, residents and peers in a clinical setting. In addition, student will continue to work on their interpersonal and communication skills that result in effective information exchange and teaming with patients, patients' families, and professional associates. This elective will allow for student exposure to different areas of medicine they may wish to pursue following graduation, and help each student determine their own areas of interest, strengths and weaknesses.

**Prerequisite:** Penn State Physician Assistant Student in Clinical Education Curriculum. Concurrent: The student will be enrolled in clinical preceptorships during each of the clinical educational semesters.

**PAS 777: Surgical Specialty Rotation****5 Credits/Maximum of 5**

The goal of this elective rotation is to give the student additional medical training during the clinical year in a surgical specialty related to their area of interest. During this rotation, the student will develop a fundamental knowledge base in major disease processes in the assigned surgical specialty. The student will improve upon their clinical decision-making skills and the ability to acquire, interpret, synthesize, and record clinical information required to define, understand, and manage patient problems in the assigned surgical specialty. They will improve the skills necessary to present patients to faculty, residents and peers in a clinical setting. In addition, student will continue to work on their interpersonal and communication skills that result in effective information exchange and teaming with patients, patients' families, and professional associates. This elective will allow for student exposure to different areas of medicine they may wish to pursue following graduation, and help each student determine their own areas of interest, strengths and weaknesses.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. Concurrent: The student will be enrolled in clinical preceptorships during each of the clinical educational semesters.

**PAS 778: Primary Care Experience I****2 Credits/Maximum of 2**

PAS 778 Primary Care Experience I will be completed by all clinical year students during the third semester of the clinical phase. Each experience will occur in a primary care discipline of their choice. Students will explore various career options, extend clinical experiences and synthesize material they have learned, and allow for individualization of learning in the rotations. This course is designed to provide students additional time for development in the primary care setting. This course will help students in their professional role development, as they will be exposed to a select area briefly, yet in depth.

**Prerequisite:** Completion of Preclinical curriculum courses. Corequisite: The student will be enrolled in clinical preceptorships during clinical year semesters.

**PAS 779: Primary Care Experience II****2 Credits/Maximum of 2**

PAS 779 Primary Care Experience II will be completed by clinical year students during the third semester of the clinical phase. Each experience in a primary care discipline of their choice. Students will explore various career options, extend clinical experiences and synthesize material they have learned, and allow for individualization of learning in the rotations. This course is designed to provide students additional time for development in the primary care setting. This course will help students in their professional role development, as they will be exposed to a select area briefly, yet in depth.

**Prerequisite:** Completion of Preclinical curriculum courses. Concurrent: The student will be enrolled in clinical preceptorships during clinical year semesters.

**PAS 780: Orthopedics II - Elective****4 Credits**

This rotation will provide students with an opportunity to evaluate, exam, manage, and educate patients who have a complaint related to their musculoskeletal system. Students may assist in the operating room and will perform history and physical examinations and medical consultations for patients with a musculoskeletal complaint. Students may be part of the preoperative planning for a patient about to undergo surgery which includes the identification of indications and contraindications for a patient about to undergo surgery. Students may also play a role in the postoperative management of patients who have undergone surgery. These exposures that the students have during this rotation will prepare them for their clinical role in taking care of patients throughout their lifespan in various types of clinical settings which includes the care of the patient with a musculoskeletal complaint or complication.

**Prerequisite:** PAS 753 Orthopedics and Sports Medicine

**PAS 781: Clinical Skills II****2 Credits/Maximum of 2**

This course is the second course in a three-part clinical skills course series that will place emphasis on interactive and hands-on learning to prepare the graduate Physician Assistant in performing routine therapeutic procedures to manage common disease entities. In addition to discussing the indications, contraindications, and complications of each procedure, students will demonstrate the ability to perform

routine procedures using appropriate technique. Furthermore, this course will provide students with an in-depth evaluation of electrocardiogram (EKG) and radiologic interpretation skills with application to clinical cases. Students will be expected to utilize patient communication and examination skills throughout all skill performance evaluations to promote student experience in providing patient education in a culturally-sensitive manner. This course will occur in the same semester as clinical medicine II, pathophysiology II, pharmacology II, pharmacotherapeutics II, and history/physical examination II. All courses will closely align in a series of system-based modules that promote horizontal and vertical integration of the PA program curriculum and prepare students for a comprehensive education prior to clinical rotations. This course will be held in a lecture type of classroom in a large group discussion format. This course will be offered every fall semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort. Student evaluation will be in the form of written examinations, demonstration of procedural skills, professionalism, and documentation of procedure notes.

**Prerequisite:** Student admitted to the preclinical physician assistant program having fulfilled the requirements for admission to this program.  
**Corequisite:** PAS 703, PAS 705, PAS 708, PAS 711, PAS 714, PAS 717, SHS 711

#### PAS 782: Clinical Skills III

2 Credits/Maximum of 2

This course is the third course in a three-part clinical skills course series that will place emphasis on interactive and hands-on learning to prepare the graduate Physician Assistant in performing routine therapeutic procedures to manage common disease entities. In addition to discussing the indications, contraindications, and complications of each procedure, students will demonstrate the ability to perform routine procedures using appropriate technique. Furthermore, this course will provide students with an in-depth evaluation of emergency medicine, trauma, neurologic, and women's health skills with application to clinical cases. Students will be expected to utilize patient communication and examination skills throughout all skill performance evaluations to promote student experience in providing patient education in a culturally-sensitive manner. This course will occur in the same semester as clinical medicine III, pathophysiology III, pharmacology III, pharmacotherapeutics III, and history/physical examination III. All courses will closely align in a series of system-based modules that promote horizontal and vertical integration of the PA program curriculum and prepare students for a comprehensive education prior to clinical rotations. This course will be held in a lecture type of classroom in a large group discussion format. This course will be offered every spring semester for the physician assistant student in the Penn State College of Medicine Physician Assistant Program. Expected enrollment is for 30 students in this class cohort. Student evaluation will be in the form of written examinations, demonstration of procedural skills, professionalism, and documentation of procedure notes.

**Prerequisite:** Student admitted to the preclinical physician assistant program having fulfilled the requirements for admission to this program.  
**Concurrent:** PAS 706, PAS 709, PAS 712, PAS 715, PAS 718, MEP 721, PAS 719, SHS 711, PAS

#### PAS 783: Inclusive Healthcare Practices

1 Credits

This course provides students with a framework for recognizing unconscious biases and addressing individual and organizational practices that impact the delivery of fair and effective medical practices for our population. Students will discuss research and science related to unconscious bias. The course will be delivered in lecture, small group, and via case-based instruction on cross-cultural health care using a patient and family centered approach to providing humanistic care to all patients through the development of inclusive treatment plans and provision of patient education.

#### PAS 784: Principles of Dermatology

2 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Dermatology course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of dermatologic diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 785: Principles of Infectious Disease

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Infectious Disease course will introduce students to the basic underlying principles of infectious disease epidemiology and an overview of major infectious diseases. This course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of infectious diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 786: Principles of Ophthalmology and Otolaryngology

2 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Ophthalmology and Otolaryngology course will introduce students to the basic underlying

principles of diseases affecting the eyes, ears, nose, and throat. This course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of ophthalmic and otolaryngologic diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 787: Principles of Endocrinology

2 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Endocrinology course will introduce students to the basic underlying principles of disease. This course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of endocrinology conditions encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation

#### PAS 788: Principles of Nephrology/Urology

2 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Nephrology and Genitourinary Disease course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of renal and genitourinary diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 789: Principles of Pulmonology

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Pulmonology course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of pulmonary diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 790: Principles of Cardiology

4 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Cardiology course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of cardiovascular diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

#### PAS 791: Principles of Gastroenterology

3 Credits

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Gastrointestinal Disease course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of gastrointestinal diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**PAS 792: Principles of Neurology****3 Credits**

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Neurology course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of neurologic diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**PAS 793: Principles of Rheumatology and Orthopaedics****4 Credits**

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Rheumatology and Orthopaedics course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of rheumatologic and musculoskeletal diseases encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**PAS 794: Principles of Surgery****2 Credits**

This module is part of the series of modules that comprises the PA program didactic curriculum. The Principles of Surgery course provides a disease oriented, problem focused, and patient centered approach to understanding the etiology, pathophysiology, risk factors, clinical manifestations, diagnosis, treatment, and prevention of surgical complications encountered in patients across the lifespan. Content areas in this module include: normal and abnormal anatomy and physiology, pathophysiology, genetic and molecular mechanisms of health and disease, pharmacology, pharmacotherapeutics, evidence-based medical research and advancements in clinical/surgical medicine, patient assessment, performance of applicable clinical and technical skills, interpretation of diagnostic and laboratory studies, using clinical reasoning to develop a treatment plan that includes indications for referral and standards for follow-up care, providing patient education, using service learning, and developing techniques for medical record documentation.

**PAS 795: Rheumatology Elective Rotation****5 Credits**

PAS 795 Rheumatology is an elective rotation offered in the clinical curriculum of the Penn State Physician Assistant Program. This rotation will provide students a five-week elective in Rheumatology. The Rheumatology rotation will provide the student with exposure to common conditions, such as osteoarthritis, osteoporosis, crystalline diseases, and rheumatoid disease as well as rare and diagnostically elusive conditions, such as vasculitis, spondyloarthropathies, and inflammatory muscle disease.

**PAS 796: Diversity, Equity, and Inclusion Advocacy Elective****5 Credits**

The Diversity, Equity, and Inclusion Advocacy Elective is an elective rotation offered as part of the clinical year curriculum at the Penn State Physician Assistant Program. This rotation will provide students with a five-week explorative elective caring for patients from diverse practice specialties or populations while providing opportunities for students to think critically about how bias impacts patients, communities, and clinical practices. Students will have the opportunity to participate in patient care across three to five specialty areas; including but not limited to gender-affirming care, prison medicine, addiction medicine, crisis intervention services, underserved areas through AHEC sites, street medicine, autism clinic, genetics, developmental pediatrics, complex care clinic, and/or care for individuals from plain communities. Students may also elect to spend a week of time with the DEB leaders of local organizations to enhance their understanding of the pervasiveness of systemic racism and bias in medicine leading to an increased morbidity and mortality for minoritized populations.