

# PHYSICIAN ASSISTANT STUDIES (PAS)

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## PAS 701: Applied Human Structure and Function I

2 Credits

Course will discuss the clinically relevant anatomy and structural information necessary for clinical practice emphasizing surface anatomy and surface markings.

**Prerequisite:** Pre-Clinical Graduate Physician Assistant Student qualified as a result of their admission to this program.; Concurrent: PAS 704, PAS 707, PAS 710, PAS 713, PAS 716, PAS 720

## PAS 702: Applied Human Structure and Function II

2 Credits

Course will discuss the clinically relevant anatomy and structural information necessary for clinical practice emphasizing surface anatomy and surface markings. PAS 702 Applied Human Structure and Function II (2) Course will discuss the clinically relevant anatomy and structural information necessary for clinical practice emphasizing surface anatomy and surface markings. 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 infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease - Use surface anatomy as the basis for the physical examination. - Identify normal and abnormal structures on dissection and discuss how abnormalities in human anatomy can impact health and disease states with regard infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease - Explain the relationship between anatomic structure and function and how this relates to health and disease. - Discuss the clinical relevance between anatomy and function. Methods of instruction will include: (1) lecture, (2) discussion, (3) demonstration, (4) audiovisual materials, (5) case studies, (6) dissection laboratories. 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 from 1-5 pm Wednesdays and Fridays from 3-5 pm throughout the semester. There may be adjustments to these class sections, depending upon topics under discussion. The dissection of the musculoskeletal system will occur at the regularly scheduled and announced dissection times per mutual schedule agreement between the College of Medicine and the Physician Assistant Program. These dissections will typically occur in the morning hours over 4 days per week for two weeks during this semester. The topics covered in this class will correspond to the topic areas in the clinical medicine integrated class, namely infectious disease, neurology, dermatology, ophthalmology, otolaryngology, rheumatology, general surgery, and musculoskeletal disease 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 second semester (fall semester) of the Physician Assistant Program and will be offered yearly. Since this class is intended to prepare these students for their role as practicing physician assistants, this class will be focused on this group of students.

**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 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: 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 Physiciana 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, otolaryngologic 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, otolaryngologic 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, otolaryngologic 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, otolaryngologic 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, otolaryngologic 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, otolaryngologic 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: Women's Studies

1 Credits

This course is intended to prepare the graduate physician assistant student to assess and manage the female population in the area of prenatal care, labor and delivery, and routine and complicated gynecologic care.

**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: Behavioral Medicine

1 Credits

This course will provide students with instruction in the practice of behavioral medicine. PAS 723 Behavioral Medicine (1) This course will instruct the student in the practice of behavioral medicine. The program will provide instruction in order for the student to identify normal and abnormal behavior patterns along with the psychological and pharmacological treatment modalities that are required to evaluate and treat these conditions. Upon completion of the course, the student will be able to determine normal and abnormal psychological syndromes and will be able to perform a clinical exam on a psychiatric patient. The student will be able to utilize the DSM-V manual. The student will gain expertise in many psychiatric syndromes, including schizophrenia, mood disorders, anxiety disorders, somatoform disorders, dissociative disorders, eating disorders, and disorders affecting children. The emphasis of this course will be on interviewing techniques that are performed at the patient bedside. Students will be able to demonstrate appropriate listening, asking appropriate open-ended and probing questions, and demonstrate the ability to obtain the appropriate material for developing a differential diagnosis. After the diagnosis is narrowed down, the student will appropriately develop a treatment plan that may include the use of psychotropic medications.

**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 interosseus 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 orientat

#### PAS 727: Clinical Skills

1 Credits

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.

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

#### 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: Emergency Studies

1 Credits

This course is intended to prepare graduate physician assistants in their management of a patient with acute emergency situations. PAS 729 Emergency Studies (1) This course will provide instruction on emergency studies and the clinical evaluation and management of patients who present to emergency departments for care. There will be a range of topics covered in this course from the mild but common types of presentations to life-threatening emergencies which will require immediate action in order to positively affect the life of the patient. Since one of the program's essential goals is for its graduates to be able to treat patients who are threatened with an emergency, this course is intended to provide instruction in helping to guide the student to achieve these goals. This course will emphasize the ability of the student to recognize patients with an emergency, be able to develop a differential diagnosis for these conditions, order appropriate diagnostic studies, and perform clinical intervention for these patients with presenting and ongoing complaints. Students will also be apprised of the need to see how care is rendered for these emergency situations so that other professionals are appropriately utilized in a team-based health care delivery situation. Evaluation of the student will typically be by written 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. 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:** completion of Summer and Fall semesters; Concurrent: PAS 703, PAS 706 , PAS 709 , PAS 712 , PAS 715 , PAS 718

PAS 730: Medical Ethics

1 Credits

This course aims to introduce students to a variety of ethical problems that arise in the practice of medicine. PAS 730 Medical Ethics (1) This course aims to introduce students to a variety of ethical problems that arise in the practice of medicine. This course will also introduce ethics methods - in other words, how do you do ethics in a systematic fashion that will increase the probability of arriving at right answers? The goal is to apply a systematic framework to ethical dilemmas in order to de-mystify the process and empower students to reach their own right answers. At the conclusion of the course, student will be able to - Recognize common ethical issues they are likely to face, and consider

the issue within the larger context of a moral method - Demonstrate an ability to anticipate and avoid ethical problems - Resolve ethical dilemmas using moral methods This course aims to accomplish four primary goals. First, I want to begin to improve your critical thinking skills. This is partly accomplished by assigning readings that address various topics and issues that are relevant and then engaging them in directed classroom discussion of those readings and subjects. Second, through class discussion I want to expose and familiarize you with an interactive Socratic style of classroom activity in which the goal is shared exploration of the topics rather than a passive lecture-style classroom. Along with improving critical thinking, this allows us to practice and improve our ability to articulate, discuss and debate ideas aloud (ie, interpersonal and team interaction skills). Third, you will become more familiar with some of the basic concepts, issues, arguments and cases in medical ethics.

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

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

This course provides the mandated clinical training in the evaluation and treatment of patients presenting for emergency medicine care.

**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 Rotation II

5 Credits

This course provides clinical training in the evaluation and treatment of patients presenting for emergency medicine care as an elective.

**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

This course provides clinical training in ambulatory family medicine. Students will encounter patients throughout their lifespan in this mandated 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 735: Family Medicine Rotation II

5 Credits

This course provides clinical training in ambulatory family medicine. Students will encounter patients throughout their lifespan in this mandated 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 737: General Surgery Rotation I

5 Credits

This course provides clinical training of physician assistant students in general and other surgery, preoperative, and postoperative care.

**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: Internal Medicine Rotation I

5 Credits

This course provides clinical training in internal medicine where students evaluate and manage the adult population over age 18.

**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

5 Credits

This course provides further clinical training in internal medicine where students evaluate and manage the adult population over age 18.

**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 medicin

PAS 741: Mental Health Rotation I

5 Credits

This course provides clinical training involving the evaluation and treatment of those with mental health disorders.

**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

This course provides clinical training and experience for care of the pediatric patient.

**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

5 Credits

This course provides clinical training and experience for care of the pediatric patient.

**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: Women's Health I

5 Credits

This course provides clinical training opportunities in women's health including wellness, prevention, prenatal and gynecologic care in the female population.

**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 746: Women's Health II

5 Credits

This course provides clinical training opportunities in women's health including wellness, prevention, prenatal and gynecologic care in the female population.

**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 Rotation III

5 Credits

This course provides further clinical training in internal medicine where students evaluate and manage the adult population over age 18.

**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 Rotation III

5 Credits

This course provides clinical training in ambulatory family medicine. Students will encounter patients throughout their lifespan in this mandated rotation.

**Prerequisite:** Penn State Graduate Physicina 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

5 Credits/Maximum of 5

PAS 749 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 endocrine complaint or a patient who is treated in the endocrinology setting. Students may assist in the endocrinology practice and will perform history and physical examinations and medical consultations for patients with an endocrinologic 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. . 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 endocrinologic disorders.

Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum.

PAS 750: Gastroenterology I

5 Credits

PAS 750 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 gastroenterologic injuries or disorders. 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 or procedures. Students may also play a role in the postoperative management of patients who have undergone surgery or procedures. 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 gastroenterology complaint or complication.

**Prerequisite:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum

PAS 751: Ear, Nose and Throat Elective

5 Credits

PAS 751 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 ears, nose and throat related treatments. 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 in the otorhinolaryngology setting.

PAS 752: Hematology/Oncology Elective

5 Credits

PAS 752 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 for a patient who is treated in the hematology and oncology setting. Students may assist with procedures and will perform history and physical examinations and medical consultations for patients with a hematology or oncology related complaint. Students may be part of the pre-treatment planning for a patient about to undergo chemotherapy or radiation which includes the identification of indications and contraindications for a patient about to undergo chemotherapy or radiation treatments. Students may also play a role in the post treatment management of patients who have undergone chemotherapy and/or radiation treatments. 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 hematological or oncological complaint or complication.

PAS 753: Orthopedics & Sports Medicine Elective

5 Credits/Maximum of 5

PAS 753 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 musculoskeletal complaint or a patient who is treated in the orthopedic setting. 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.

#### PAS 754: Trauma Elective Rotation

5 Credits

PAS 754 Trauma is an elective course which involves the evaluation and management of 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. Students will gain proficiency in identifying patients with clinical presentations of traumatic injuries 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 trauma services 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 complicated trauma-related health care needs. Students will also gain exposure to the patient care mix for people who are presenting to a trauma setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

#### PAS 755: Dermatology Elective Rotation

5 Credits

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. Students will be able to apply knowledge and skills from the pre-clinical curriculum to these patients who often have dermatologic health care needs. Students will also gain exposure to the patient care mix for people who are presenting to a dermatology setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

#### 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 Rotation

5 Credits

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, examine, manage, and educate patients who

have a complaint related to the vascular, GI, GU, musculoskeletal, and integumentary systems. Students will gain proficiency in identifying patients with clinical presentations 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 interventional radiology providers 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 vascular, GI, GU, musculoskeletal, and integumentary health care needs. Students will also gain exposure to the patient care mix for people who are presenting to an interventional radiologic setting and may gain exposure to the typical roles that certified physician assistants play in the delivery of care in this setting.

#### PAS 758: Cardiology Preceptorship

5 Credits

PAS 758 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 cardiovascular complaint or a patient who is treated in the cardiology setting. Students may assist in the cardiovascular suite and will perform history and physical examinations and medical consultations for patients with a cardiovascular 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 cardiovascular risk or cardiovascular 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 a cardiovascular complaint or complication.

#### PAS 759: Plastic and Reconstructive Surgery I

5 Credits

PAS 759 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 plastic and reconstructive surgery complaint treated in the plastic and reconstructive surgery setting. Students may assist with procedures and will perform history and physical examinations and medical consultations for patients with a plastic and reconstructive surgery related complaint. Students may be part of the pre-treatment planning for a patient about to undergo plastic and reconstructive surgery which includes the identification of indications and contraindications for a patient about to undergo plastic and reconstructive surgery. Students may also play a role in the post treatment management of patients who have undergone plastic and reconstructive surgical procedures. 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 plastic and reconstructive surgery related complaint or complication.

**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 760: Cardiothoracic (CT) Surgery I Elective Rotation

5 Credits

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 Course Justification 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 I Elective Rotation

5 Credits

PAS 759 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. Students may assist with procedures and will perform history and physical examinations and medical consultations for patients with a neurology related complaint. Students may be part of the pre-treatment planning for a patient about to undergo neurology 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 neurological treatments. 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 neurological related complaint or complication.

**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 762: Critical Care Medicine I Elective Rotation

5 Credits

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. 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 Critical Care 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.

## PAS 764: Palliative Medicine I Elective Rotation

5 Credits

PAS 764 Palliative Medicine I is as an elective rotation which involves the evaluation and management of patients who present for care in an Palliative Medicine setting. Students will gain experience in their ability to stabilize, evaluate, and manage patients in a Palliative 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 an Palliative 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 Palliative 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 Palliative 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.

**PAS 765: Burn Surgery Elective Rotation**

5 Credits

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. 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:** 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 766: Urgent Care I Rotation**

5 Credits

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:** 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 767: Urgent Care II Elective Rotation**

5 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:** 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 769: Neurosurgery I**

5 Credits

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:** Penn State Graduate Physician Assistant Student enrolled in the Clinical Education Curriculum. This is an elective course in the primary care sequence. This course will occur following the completion of at least 6 core clinical rotation co