

# PHYSICIAN ASSISTANT STUDIES - PAS

---

## PAS 511 Principles of Medical Science I 2 Credits

This is the first of three courses that focus on the sciences that influence the human organism at the cellular, organ, and systemic levels. The course is presented by body regions, allowing students to learn and assimilate the morphology of different areas of the human body in a logical fashion to correlate with Clinical Medicine instruction. Topics covered in this first course include Infectious Disease, Cardiology, Pulmonology, HEENT, and Gastroenterology. Discussions will include how normal and abnormal anatomy, pathophysiology, and genetics influence the patient's health and disease outcomes. Additionally, students will be exposed to medical microbiology and epidemiology as it pertains to common infectious organisms in each organ system. The course is taught via lectures, class discussions, and laboratory dissection of virtual human cadavers using Anatomage virtual anatomy tables as well as other anatomical models.

**Offered:** every spring.

## PAS 512 Principles of Medical Science II 2 Credits

This is the second in a series of three courses that focus on applied human anatomy, pathophysiology, microbiology, and genetics that influence the human organism at the cellular, organ, and systemic levels. The course is presented by body regions, allowing students to learn and assimilate the morphology of different areas of the human body in an organized and logical fashion to correlate with Clinical Medicine instruction. Topics covered in this second course include Endocrinology, Genitourinary/Renal, Women's Health (Ob/Gyn), Pediatrics, and Dermatology. Discussions will cover how normal and abnormal anatomy, pathophysiology, and genetics influence the patient's health and disease outcomes. Additionally, students will be exposed to medical microbiology and epidemiology as it pertains to common infectious organisms in each organ system. The course is taught via lectures, class discussions, and laboratory dissection of virtual human cadavers using Anatomage virtual anatomy tables as well as other anatomical models.

**Prerequisite:** Minimum grade of B in PAS 511.

**Offered:** every summer.

## PAS 513 Principles of Medical Science III 2 Credits

This is the third in a series of three courses that focus on applied human anatomy, pathophysiology, microbiology, and genetics that influence the human organism at the cellular, organ, and systemic levels. The course is presented by body regions, allowing students to learn and assimilate the morphology of different areas of the human body in an organized and logical fashion to correlate with Clinical Medicine instruction. Topics covered in this course include Neurology/Psychiatry, Orthopedics, Rheumatology, Hematology/Oncology, and Geriatrics. Discussions will include discussion of how normal and abnormal anatomy, pathophysiology, and genetics influence the patient's health and disease outcomes, microbiology and epidemiology as it pertains to common conditions and diseases. The course is taught via lectures, class discussions, and laboratory dissection of virtual human cadavers using Anatomage virtual anatomy tables as well as other anatomical models.

**Prerequisite:** Minimum grade of B in PAS 511 and PAS 512.

**Offered:** every fall.

## PAS 521 Clinical Medicine I 5 Credits

The Clinical Medicine Series presents the application of principles of the basic sciences (anatomy, pathophysiology, genetics, and microbiology) to common health conditions involved in each organ system. Clinical Medicine I is the first of three courses in this series. Students will investigate signs, symptoms, and presentations of a variety of health conditions that correlate with the body systems for semester one. As in the Principles of Medical Science course, topics covered in this first course include Infectious Disease, Cardiology, Pulmonology, HEENT, and Gastroenterology. This includes using evidence-based medicine in a wide range of disease states to formulate a differential diagnosis, order and interpret diagnostic studies, determine prognosis, and develop patient management plans. In addition, students will discuss case studies that incorporate behavioral health issues, health disparities, and other topics that emphasize the holistic approach to medicine.

**Offered:** every spring.

## PAS 522 Clinical Medicine II 5 Credits

Clinical Medicine II is the second of three courses in this series, applying principles of the basic sciences (anatomy, pathophysiology, genetics, and microbiology) to common health conditions involved in each organ system. Students will investigate signs, symptoms, and presentations of diseases and conditions associated with Endocrinology, Genitourinary/Renal, Women's Health (Ob/Gyn), Pediatrics, and Dermatology. This includes using evidence-based medicine in a wide range of disease states to formulate a differential diagnosis, order and interpret diagnostic studies, determine prognosis, and develop patient management plans. In addition, students will discuss case studies that incorporate behavioral health issues, health disparities, and other topics that emphasize the holistic approach to medicine.

**Prerequisite:** Minimum grade of B in PAS 521.

**Offered:** every summer.

## PAS 523 Clinical Medicine III 5 Credits

Clinical Medicine III is the third of three courses in this series presenting the application of science to common health conditions involved in each organ system. Students will investigate signs, symptoms, and presentations of a variety of health conditions that correlate with Neurology/Psychiatry, Orthopedics, Rheumatology, Hematology/Oncology, and Geriatrics. Additionally, students will be presented with special considerations for emergent and surgical patient presentations of various health conditions covered over the course of all three semesters of Clinical Medicine. This includes using evidence-based medicine in a wide range of disease states to formulate a differential diagnosis, order and interpret diagnostic studies, determine prognosis, and develop patient management plans. In addition, students will discuss case studies that incorporate behavioral health issues, health disparities, and other topics that emphasize the holistic approach to medicine in these areas.

**Prerequisite:** Minimum grade of B in PAS 521 and PAS 522.

**Offered:** every fall.

**PAS 531 Pharmacotherapeutics I****3 Credits**

This course is the first of three courses that teach the fundamental principles of pharmacotherapy by presenting the rationale for treatments as well as the recommended treatment plans for a specific range of disease processes, symptoms and conditions in sequence with topics in Clinical Medicine I. The course explores multiple modalities for treating common diseases and conditions in each system. Topics include how medications are delivered, how they work, and how they are eliminated from the body. Key concepts include mechanism of action, pharmacokinetics, drug targets, pharmaceutical math, drug toxicity and drug interactions. Lecture material is augmented by case-based exercises designed to develop pharmacotherapy decision making skills. Students will also learn about non-pharmacologic alternatives for treatment or prevention of disease such as physical therapy, exercise, nutrition, and other alternative medicine approaches.

**Offered:** every spring.**PAS 532 Pharmacotherapeutics II****3 Credits**

This course is the second of three courses that teach the fundamental principles of pharmacotherapy by presenting the rationale for treatments as well as the recommended treatment plans for a specific range of disease processes, symptoms and conditions in sequence with organ system topics in Clinical Medicine II. The course explores how medications are delivered, how they work, and how they are eliminated from the body. Key concepts include mechanism of action, pharmacokinetics, drug targets, pharmaceutical math, drug toxicity and drug interactions. Lecture material is augmented by case-based exercises designed to develop pharmacotherapy decision-making skills. Students will also learn about non-pharmacologic alternatives for treatment or prevention of disease.

**Prerequisite:** Minimum grade of B in PAS 531.**Offered:** every summer.**PAS 533 Pharmacotherapeutics III****3 Credits**

This course is the third of three courses that teach the fundamental principles of pharmacotherapy by presenting the rationale for treatments as well as the recommended treatment plans for a specific range of disease processes, symptoms and conditions in sequence with organ system topics in Clinical Medicine III. Students will also continue to expand on their understanding of addiction and how treatments cause, prevent, and treat addiction of all types. Content in this area will correlate closely with addiction instruction in the Principles of Medical Science III course. Key concepts include mechanism of action, pharmacokinetics, drug targets, pharmaceutical math, drug toxicity and drug interactions. Lecture material is augmented by case-based exercises designed to develop pharmacotherapy decision-making skills. Students will also learn about non-pharmacologic alternatives for treatment or prevention of disease.

**Prerequisite:** minimum grade of B in PAS 531 and PAS 532.**Offered:** every fall.**PAS 541 Physical Diagnosis I****3 Credits**

The Physical Diagnosis Course is the first in a series of three courses designed to develop the knowledge and skills essential for performing a medical history and physical examination for various medical conditions. The course emphasizes patient interviewing, acquiring a medical data base, and performing a comprehensive physical examination. Students will use the Clinical Medicine I lectures to provide a foundation of principles to apply to the practice of interview and examination of a patient.

**Offered:** every spring.**PAS 542 Physical Diagnosis II****2 Credits**

The Physical Diagnosis II Course is the second in a series of three courses designed to develop in students the knowledge and skills essential for performing a medical history and physical examination for various medical conditions. The course emphasizes patient interviewing, acquiring a medical data base, and performing a comprehensive physical examination. Students will use the Clinical Medicine II lectures to provide a foundation of principles to apply to the practice of interview and examination of a patient.

**Prerequisite:** Minimum grade of B in PAS 541.**Offered:** every summer.**PAS 543 Physical Diagnosis III****3 Credits**

The Physical Diagnosis Course is the continuation of a series of three courses designed to develop in students the knowledge and skills essential for performing a medical history and physical examination for various conditions. The course emphasizes patient interviewing, acquiring a medical data base, and performing a comprehensive physical examination. Students will use the Clinical Medicine III lectures to provide a foundation of principles to apply to the practice of interview and examination of a patient.

**Prerequisite:** Minimum grade of B in PAS 541 and PAS 542.**Offered:** every fall.**PAS 551 Diagnostic Medicine I****1 Credit**

This course provides an introduction to the concepts of ordering and interpreting laboratory, imaging and diagnostic tests utilized in current medical practice. Course includes indications, contraindications, precautions, complications, techniques, cost-effectiveness, and patient counseling when ordering and interpretation diagnostic tests. This includes how and when to order various radiologic testing, laboratory testing, and electrocardiograms, as well as how to interpret results. Students will also be introduced to identifying normal variants and common pathologies when analyzing results.

**Offered:** every spring.**PAS 553 Diagnostic Medicine II****1 Credit**

This course is a continuation of Diagnostic Medicine I, teaching the concepts and practice of ordering and interpreting laboratory, imaging and diagnostic tests utilized in current medical practice. Course includes indications, contraindications, precautions, complications, techniques, cost-effectiveness, patient preparation, and ordering and interpretation of specific labs and tests. This includes how and when to order various testing, as well as how to interpret results. Students will also be introduced to point of care (POC) testing.

**Prerequisite:** Minimum grade of B in PAS 551.**Offered:** every fall.**PAS 561 Clinical Skills I****2 Credits**

This course is the first in a series of three courses taught in conjunction with Clinical Medicine, developing hands-on skills in performing specialized testing and maneuvers to evaluate and treat common acute, chronic, and routine conditions. Students will be given an opportunity to observe and practice skills to promote comfort and confidence in preparation for the clinical setting. A combination of teaching methods will be used including independent reading, observation, simulation, and hands-on practice.

**Offered:** every spring.**PAS 562 Clinical Skills II****2 Credits**

This course is the second in a series of three courses taught in conjunction with clinical medicine, developing hands-on skills in performing specialized testing and maneuvers to investigate common acute, chronic, and routine conditions. Students will be given an opportunity to observe and practice skills to promote comfort and confidence in preparation for the clinical setting. A combination of teaching methods will be used including independent reading, observation, simulation, and hands-on practice.

**Prerequisite:** minimum grade of B in PAS 561.**Offered:** every summer.

**PAS 563 Clinical Skills III****2 Credits**

This course is the third in a series of four courses taught over the first four semesters in conjunction with clinical medicine, developing hands-on skills in performing specialized testing and maneuvers to investigate common acute, chronic, and routine conditions. Students will be given an opportunity to observe and practice skills to promote comfort and confidence in preparation for the clinical setting. A combination of teaching methods will be used including independent reading, observation, simulation, and hands-on practice.

**Prerequisite:** Minimum grade of B in PAS 561 and PAS 562.

**Offered:** every fall.

**PAS 571 Professional Development I****1 Credit**

This course is the first in a series of courses designed to develop the physician assistant professional. In this first course, students will learn more about the history of the profession, develop skills in effective participation on the interprofessional team, how to advocate for vulnerable patients by recognizing health care disparities, improve cultural awareness, and gain a better understanding about academic integrity. Instructors and guest speakers will expose students to challenging scenarios that require professional interaction to heighten personal awareness and cultural competence in order to improve ability to work with patients, families, and other health professionals.

**Offered:** every spring.

**PAS 572 Professional Development II****1 Credit**

This course is the second in a series of courses designed to develop the physician assistant professional. In this course, students will learn the foundations of patient/provider rights, medicolegal aspects of health care, and palliative care/end-of-life considerations. Students will also learn techniques for identifying, interviewing and caring for the challenging patient. Instructors and guest speakers will expose students to challenging scenarios that require professional interaction to heighten personal awareness and prepare students for recognizing and reacting appropriately to these issues in the health care setting.

**Prerequisite:** Minimum grade of B in PAS 571.

**Offered:** every summer.

**PAS 573 Behavioral Medicine****1 Credit**

This course focuses on understanding human behavior in health and illness. Case studies and team problem solving in addition to lecture and simulation/role play will be used to reinforce concepts. Students will be asked to think critically about multiple issues that transcend bioscience, and emphasize psychology, social science and spirituality in a patient-centered forum. Additionally, the course will include a variety of perspectives, discuss social contexts, and consider equity and justice.

**Offered:** every fall.

**PAS 581 Community Health and Preventative Medicine****1 Credit**

This course is a basic introduction into concepts of public/global health, occupational health, and preventive health strategies for the physician assistant. In the first half of this course, students will learn how and when to track and report illness, vaccination protocols, basic disaster preparedness, infection control, global health initiatives, and response to outbreaks. Students will also be introduced to components of occupational medicine including how to perform a thorough occupational health assessment to determine fitness for duty and patient counseling in prevention of illness or injury. In the second half of the semester, students will learn about various health maintenance and disease prevention concepts for pediatric, adolescent, adult, and geriatric patients and their families. Concepts include age-appropriate screening, vaccination recommendations, exercise in healthcare, and nutrition. Students will also review the epidemiological distribution of disease and its sociologic implications while developing the skills necessary to provide culturally sensitive patient education to a diverse population.

**Offered:** every spring.

**PAS 593 Interprofessional Collaborative Practice****1 Credit**

The Interprofessional Collaborative Practice (IPCP) Micro-credential Program provided by University at Buffalo (UB) engages health professions students with learning experiences to develop the Interprofessional Education Collaborative (IPEC) Core Competencies for Collaborative Practice - interprofessional values and ethics, roles and responsibilities of healthcare providers, interprofessional communication, and teamwork. The IPCP Micro-Credential Program includes three digital badges: IPCP - Foundations, IPCP- Communication and Teamwork, IPCP- Healthcare Practice. This first course provides instruction for badge #1. In this digital badge, health professions students will learn the foundational knowledge of interprofessional collaborative practice, the four IPEC Core Competencies, and the rationale for interprofessional collaborative practice for improving health outcomes and strengthening our healthcare system. Students will collaborate with students from other health professions to use existing evidence to develop strategies to optimize healthcare for individuals and populations; learn the roles and responsibilities of members of the healthcare team; discuss team development and its importance in healthcare provision; and learn strategies to manage disagreements and ethical dilemmas. Offered: every fall.

**PAS 594 Interprofessional Collaborative Practice****1 Credit**

The Interprofessional Collaborative Practice (IPCP) Micro-credential Program provided by University at Buffalo (UB) engages health professions students with learning experiences to develop the Interprofessional Education Collaborative (IPEC) Core Competencies for Collaborative Practice. The IPCP Micro-Credential Program includes three digital badges: IPCP - Foundations, IPCP- Communication and Teamwork, IPCP- Healthcare Practice. This course provides badge #2. In this digital badge, health professions students develop interprofessional communication and teamwork skills. Using simulation-based or community-based learning experiences, students collaborate with other health professions students to provide effective person-centered and population-based care; to effectively communicate with team members, care recipients, family members, and other professionals; to provide and receive feedback; and to work effectively within a team.

**Offered:** every spring.

**PAS 595 Interprofessional Collaborative Practice 1 Credit**

The Interprofessional Collaborative Practice (IPCP) Micro-credential Program provided by University at Buffalo (UB) engages health professions students with learning experiences to develop the Interprofessional Education Collaborative (IPEC) Core Competencies for Collaborative Practice. The IPCP Micro-Credential Program includes three digital badges: IPCP - Foundations, IPCP- Communication and Teamwork, IPCP- Healthcare Practice. This course provides badge #3. In this digital badge, health professions students develop interprofessional collaborative practice skills by engaging in collaborative practice in the healthcare setting. Students collaborate with patients and healthcare providers to deliver high quality, ethical healthcare services to patients and populations; demonstrate respect for cultural diversity and individual differences in interactions with patients, community members, and the healthcare team; communicate clearly and respectfully with patients, families, and health team members, provide information, discuss care plans and decisions; and engage in interprofessional teamwork to provide care, promote health, and prevent disease and disability.

**Offered:** every summer.

**PAS 701 Family Medicine Rotation 8 Credits**

The family medicine rotation is an eight-week course. Students are exposed to a variety of experiences that emphasize the patient and family as a whole unit from birth to end of life. Students will be involved in providing integrated, accessible health care services, and will be accountable for addressing personal health care needs, while practicing in the context of the family and community. This rotation will expose students to common health problems, in addition to general routine health maintenance. Patient education, counseling and integration with community services are important components of this rotation.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 702 Hospital Medicine Rotation 8 Credits**

The hospital medicine rotation provides students with experience in the hospital setting. Students will become proficient in care of the patient including ordering and interpreting inpatient testing, admitting and discharging patients, intervening in urgent or emergent patient scenarios, and developing care plans as they participate on the interprofessional team.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 703 Internal Medicine Outpatient Rotation 4 Credits**

The internal medicine outpatient rotation is designed to give students exposure to a wide spectrum of adult health care. The fundamentals of this rotation will place emphasis on evaluation and management of complex medical problems in the older patient.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 704 General Surgery Rotation 4 Credits**

This rotation will include supervised visits in both ambulatory and in-patient settings to expose the student to various surgical options for patient care. Emphasis will be placed on differential diagnosis, patient management both pre and post operatively, data collection, and performance of diagnostic and therapeutic skills. Students will also learn to triage emergencies. Students will assist the surgeon in the operating arena, and will have the opportunity to become familiar with the operating procedures and post-operative management.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 705 Pediatrics Rotation 4 Credits**

This rotation will encompass all aspects of pediatric care, from birth to adolescence. It will provide the student with opportunities to obtain medical histories and perform pediatric examinations, as well as diagnosis and management of common childhood illnesses. Evaluation and education of patients and families on normal growth and development will be included, as well as appropriate health maintenance and disease prevention. The student will become well versed in topics such as immunizations, common psychosocial problems, nutrition, and accident prevention.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 706 Emergency Medicine Rotation 4 Credits**

The Emergency Medicine rotation combines facets of all specialties, while focusing on acute and critical care management of the patient. The student will learn basic concepts of medical triage, and be able to assess different types of emergencies and provide appropriate treatment under the guidance of the preceptor. The student will participate as a member of the emergency department team in assessment and care of emergent, acute, and sub-acute conditions.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 707 Behavioral Medicine Rotation 4 Credits**

This rotation will teach students to recognize psychiatric illnesses as well as the psychiatric component of other illnesses in order to effectively address the needs of the patient. Students will be taught how to look beyond the individual and their immediate circumstances to assess related familial and environmental needs that may be contributing to the illness. The student will gain knowledge of the intricacies of psychiatric illnesses through active involvement in the diagnosis and management of the patient. Students will further their understanding of effective patient interactions and the mental health components of health in either an in-patient facility or outpatient office.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 708 Women's Health Rotation 4 Credits**

The purpose of this rotation is to learn and understand the basic principles and practice of obstetrics and gynecology, and to develop a general understanding of women's health. This rotation will encompass diagnosis, treatment and management of common issues encountered in gynecology and prenatal care, with occasional opportunities in labor and delivery.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 709 Elective Rotation 4 Credits**

Students will have the opportunity, as pre-arranged with a qualified preceptor, to participate in a rotation of their choice. These rotations may include critical care/intensive care unit, dermatology, infectious disease, specialty surgery, specialty pediatrics, cardiology, radiology, orthopedics, or pain management. Students may also be required to or request an opportunity to return to a previous required rotation for additional training.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 710 Elective Rotation II 4 Credits**

As in PAS 709, students will have the opportunity, as pre-arranged with a qualified preceptor, to participate in a rotation of their choice. These rotations may include critical care/intensive care unit, dermatology, infectious disease, specialty surgery, specialty pediatrics, cardiology, radiology, orthopedics, or pain management. Students may also be required to or request an opportunity to return to a previous required rotation for additional training.

**Prerequisite:** Successful completion of all PAS didactic coursework.

**Offered:** every fall, spring, & summer.

**PAS 725 Master's Research and Writing Part I 1 Credit**

This is the first of two courses related to research and publication for physician assistant studies students. This course will focus on reading scientific literature, researching a scientific question, framing a hypothesis, and preparing a study design. This course is taught in the summer (semester 5).

**Offered:** every summer.

**PAS 726 Master's Research and Writing Part II 1 Credit**

This is the second of two courses related to research and publication for physician assistant studies students. In this course, we will focus on scientific writing and editing, peer review process, and publication process. This course is taught in the fall (semester 6).

**Offered:** every fall.

**PAS 727 Professional Development III 1 Credit**

This course is the third in a series of three courses designed to develop the physician assistant professional. In the first half of this course, students will learn about health policy and health systems, refine skills in identifying and interpreting data, use of medical informatics/electronic medical records (EMR)/billing, risk management and patient safety, and critically analyzing evidence-based medicine. For the final section of professional development, students will have lectures covering credentialing, contract negotiation, CV writing, and current PA practice regulations in preparation for entering the profession. Instructors and guest speakers from medical, professional, and legal backgrounds will be invited to work with students. Students will also be evaluated on their overall professional behaviors related to their readiness for clinical practice.

**Prerequisite:** Minimum grade of B in PAS 571 and PAS 572.

**Offered:** every fall.

**PAS 799 Capstone Seminar 5 Credits**

This course provides students with the opportunity to demonstrate that they have achieved the goals, objectives, and competencies of the program and are prepared to enter the workforce as competent and caring physician assistant. Students will return to campus full-time to receive a comprehensive review of clinical medicine concepts, and be evaluated on their ability to assess and manage patients of varying ages (prenatal, infants, children, adolescents, adults and elderly), in varying care environments (preventative, emergent, acute, chronic, rehabilitative, palliative, and end-of-life). Students will also be evaluated on their performance of clinical/procedural skills in a lab setting as well as overall professionalism. Students are expected to exhibit the proficiencies, judgement, and character expected of an entry level certified physician assistant. Students will have an intensive 3-day PANACE Prep Course, take and review the PAKRAT, and complete the summative assessments (Written, OSCE, and Professional Skills). Students will also finalize and submit their Masters presentation, and complete the final program evaluation/exit survey.

**Prerequisite:** Successful completion of all PAS didactic coursework and all clinical rotations. May be concurrently registered for a clinical rotation.

**Offered:** every spring.