

Winter Semester - 2 courses (4 credits)

PAS 515 Evidence Based Medicine/Research Methods 2 credits

This course is designed with an emphasis on the incorporation of evidence-based medicine and life-long learning. Students will be introduced to research including methodology, statistical analyses, formulating research questions, and evaluating research designs for application to primary care clinical practice. The course content includes an overview of research concepts, ethics, quantitative and qualitative research methods, and designs. Using published research obtained during medical literature search and national practice guidelines, evidence-based practice is introduced.

PAS 500 Medical Law, Ethics, PA History 2 credits

This course explores the history of the Physician Assistant (PA) profession, the current role of the PA in the health care system, organizations, and current trends in the profession designed to aid the student's transition into the medical profession. Areas of discussion include confidentiality, competency, making informed decisions, inequality to access health care issues, and other ethical issues. Practice roles, legal issues, quality assurance, risk management, and the PA/physician team dynamics will be explored.

Spring Semester - 5 courses (15 credits)

PAS 512 Clinical Medicine II 6 credits

This course is the second in a series of three clinical medicine courses discussing disease processes common to primary care practice. Etiology, presentation, development of a differential diagnosis, ordering, and interpreting diagnostic procedures, and formulation of a treatment plan will be studied. Discussion and differential diagnosis will include material covered in clinical medicine I and will continue to build upon material taught in anatomy, pathophysiology, patient assessment and counseling, and pharmacology. Clinical medicine II will use an organ system-based approach and will contain modules covering Pulmonology, Cardiology, Renal/Genitourinary, and Infectious Disease. This course will be given in a lecture format using case studies.

Pre-requisite: successful completion of Clinical Medicine I, Anatomy, Physiology, Patient Evaluation and Clinical Reasoning I, Co-requisite: Pharmacology I, Patient Evaluation and Clinical Reasoning II

PAS 507 Patient Evaluation and Clinical Reasoning II 2 credits

This course is the second of three courses designed to discuss patient history taking, communication, and documentation skills. Building upon Patient Assessment and Counseling I, students will continue to learn interview and examination techniques. Students will learn how to target their interviewing and continue using medical diagnostic equipment as they develop the skills to perform a focused physical examination. Students will be introduced to techniques to assess common abnormal physical exam findings. Students will learn to use critical thinking skills in creating a differential diagnosis and treatment plans. This course will use traditional lectures, assigned lab partners and simulated/standardized patients.

Pre-requisite: successful completion of Patient Evaluation and Clinical Reasoning I, Clinical Medicine I, Behavior Medicine I, Anatomy and Pathophysiology. Co-requisite: Clinical Medicine II, Pharmacology I, Behavior Medicine II.

PAS 509 Pharmacology I 3 credits

This is the first of two courses in pharmacology. Students will be introduced to the general principles of pharmacology, pharmacokinetics, pharmacotherapeutics, and pharmacodynamics. The course runs parallel to the Clinical Medicine course and is designed to provide the background for the appropriate use of pharmaceuticals in the treatment of disease. The focus is on identifying drug classes, side effects, recognizing adverse drug reactions, drug-drug interactions, mechanisms of action, and the importance of patient education to assist in the compliance of medications. Over-the-counter and alternative medications will also be discussed.

Pre-requisite: Successful completion of Pathophysiology, Clinical Medicine I. Co-requisite: Clinical Medicine II.

PAS 510 **Clinical Lab Medicine/Diagnostic Skills** **2 credits**

This course is designed to study ordering, interpreting, and performing laboratory/diagnostic studies including radiographic testing used in screening, diagnosis, management, and monitoring of common diseases in the primary care setting. Fundamentals of electrocardiography and interpretation of basic EKG patterns will be discussed. Content correlates with clinical medicine.

Pre-requisite: Successful completion of Anatomy, Clinical Medicine I; Co-requisite: Clinical Medicine II

PAS 519 **Behavioral Medicine II** **2 credits**

This is the second of two courses in behavior medicine. This course will build upon the interpersonal skills developed in the first course and students will continue to become familiar with the Diagnostic and Statistical Manual (DSM). This course will continue to provide in-depth coverage of common emotional problems seen in primary care. Topics in this course will include substance abuse/alcoholism, homelessness, eating disorders, chronic pain, sexual assault, response to stress, injury, illness, death, etc.

Pre-requisite: successful completion of Behavior Medicine I, Clinical Medicine I, Patient Evaluation and Clinical Reasoning I, Co-requisite: Clinical Medicine II, Pharmacology I, Patient Evaluation and Clinical Reasoning II

Summer Semester - 5 courses (11 credits)

PAS 511 **Pharmacology II** **3 credits**

This is the second and last of two courses in pharmacology. Students will build upon Pharmacology I and continue to be introduced to the general principles of pharmacology, pharmacokinetics, pharmacotherapeutics, and pharmacodynamics. The course runs parallel to the Clinical Medicine course and is designed to provide the background for the appropriate use of pharmaceuticals in the treatment of disease. The focus is on identifying drug classes, side effects, recognizing adverse drug reactions, drug-drug interactions, mechanisms of action, and the importance of patient education to assist in the compliance of medications. Over the counter and alternative medications will be discussed.

Pre-requisite: Successful completion of Pathophysiology, Clinical Medicine I/II. Co-requisite: Clinical Medicine III.

PAS 530 **Clinical Specialty-Geriatrics** **2 credits**

This course will introduce students to the process of aging as it affects the human body and mind. Atypical presentations of common acute and chronic diseases present in older populations will be addressed as well as challenges of management with concomitant disease states. Polypharmacy in older adults, Alzheimer's disease, dementia, patient compliance issues, palliative, and end-of-life care will be discussed.

PAS 517 **Clinical Specialty-Surgery/ICU** **2 credits**

This course introduces the role of the physician assistant in surgery and critical care/intensive care unit. Emphasis on surgical fundamental principles, operating room, aseptic/surgical technique, and strategies to avoid and treat surgical complications. Risk assessment, wound healing, and pre, intra, and postoperative care will be discussed. Students will be introduced to hemodynamically unstable patients including shock, trauma, cardiac arrest, acid-base and electrolyte management, and nutritional support. Ventilator management and invasive procedures used in ICU care will be covered.

Pre-requisite: successful completion of Clinical Medicine I/II, Pharmacology I, Anatomy, Physiology/Pathophysiology, Clinical Laboratory Medicine/Imaging; Co-requisite: Clinical Medicine III, Pharmacology II

PAS 513 **Clinical Skills-Procedures/Emergency Room** **2 credits**

Using lectures, simulation, procedural demonstrations, and hands-on laboratory exercises, this course continues to develop clinical reasoning and common clinical procedures. Procedures taught range from simple procedures such as phlebotomy to invasive procedures such as thoracentesis and central line placement. Topics will include venipuncture, suturing, biopsy, Foley placement, injections, the establishment of IV access, gynecological/breast exam, arterial blood gases, and nasogastric tube placement.

Pre-requisite: successful completion of Clinical Medicine I/II, Anatomy, Clinical Laboratory/Imaging; Co-requisite: Clinical Medicine III, Clinical Specialty-Surgery/ICU

CLINICAL YEAR COURSES

Spring Semester - 3 courses (18 credits)

PAS 522 Family Medicine Rotation 6 credits

This is a required 6-week clinical practice experience in family practice under the supervision of a clinical site preceptor. The student will gain experience and integrate the knowledge and skills learned during the didactic phase to interact with patients and their families, order and interpret lab/diagnostic tests, evaluate, and manage patients effectively. Students will have the opportunity to manage acute and chronic care in addition to patient education across the lifespan.

PAS 520 Internal Medicine Rotation 6 credits

This is a required 6-week clinical practice experience in internal medicine under the supervision of a clinical site preceptor. The student will gain experience and be able to integrate the knowledge and skills learned during the didactic phase to interact with patients and their families, order and interpret lab/diagnostic tests, evaluate, and manage patients effectively. With experience in both inpatient and outpatient settings, students will encounter a full range of experiences including preventative care, emergent, acute, and chronic diagnoses, and palliative/end of life care. The context of each patient's social, economic, cultural, and religious backgrounds will be considered. Students will have the opportunity to work as part of the primary care team, coordinating with specialists and interdisciplinary health professionals.

PAS 521 General Surgery Rotation 6 credits

This is a required 6-week clinical practice experience in surgery under the supervision of a clinical site preceptor. The student will participate in pre, intra (assisting), and postoperative care. Students will gain experience in the evaluation of acutely ill surgical patients, assist in surgery, and identify indications, contraindications, and potential complications.

Summer Semester - 3 courses (13 credits)

PAS 527 Capstone I 1 credit

This first of two courses designed to enable PA students to research and prepare a scholarly paper on an approved topic in clinical medicine. Students will be guided by a faculty or community advisor throughout the process. The student will be required to present the paper to peers, the PA program, and university faculty before graduation. The emphasis in this course is on finalizing a research question, gathering research articles/information for a complete literature review, developing an introduction and methods section, and analyzing to draft the results and discussion session.
Pre-requisite: successful completion of didactic year

PAS 524 Emergency Medicine Rotation 6 credits

This is a required 6-week clinical practice experience in emergency medicine under the supervision of a clinical site preceptor. Students will have the opportunity to evaluate and treat a wide variety of urgent, emergent, and life-threatening conditions. The students will learn to triage patients, interact with patients' families, and become more proficient at taking rapid accurate histories, performing focused physical examinations, ordering appropriate diagnostic tests, and formulating a treatment plan.

PAS 523 Women's Health Rotation 6 credits

This is a required 6-week clinical practice experience in women's health under the supervision of a clinical site preceptor. Students will have the opportunity to see a wide variety of concerns related to the female reproductive system. Students will further develop their knowledge of assessment and treatment, preventive care, and screening recommendations of women's health issues. Students will become familiar with women's health exams, pregnancy, menopause, and infertility. (Minimum of 40 hours a week).

Fall Semester - 6 courses (21 credits)

- PAS 526 Pediatric Rotation 6 credits**
This is a required 6-week clinical practice experience in pediatrics under the supervision of a clinical site preceptor. The student will refine their history taking and physical examination skills in the pediatric population, perform well-child checks (health promotion), evaluate children for developmental milestones, and diagnose and treat acute and chronic illnesses in children and adolescents. The student will have the opportunity to educate and counsel the patient and their parent or guardian. (Minimum of 40 hours a week).
- PAS 525 Behavioral Health Rotation 6 credits**
This is a required 6-week clinical practice experience in mental health/psychiatry under the supervision of a clinical site preceptor. This experience allows the student to enhance their knowledge and skills in the assessment, diagnosis, and management of individuals with mental health disorders. The rotation will also provide the opportunity for the student to become more familiar with the psychiatric examination, mental health assessment, observe behavioral/mental therapy/interventions, and the use of psychiatric medications. Emphasis is on applying skills learned to treat behavioral/mental health issues in primary care. (Minimum of 40 hours a week).
- PAS 536 Elective Rotation 6 credits**
This is a required 6-week clinical practice experience chosen by the student. This experience allows the student to enhance their knowledge and skills in a particular specialty of medicine. Options for students to achieve this include but are not limited to additional experience in a required rotation; medical discipline of interest not encountered in the previous rotations; public health service and/or health policy. This site must be approved by the Clinical Director. (Minimum of 40 hours a week).
- PAS 529 Capstone II 1 credit**
This is the second and last course designed to enable PA students to research and prepare a scholarly paper on an approved topic in clinical medicine. Students will be guided by a faculty or community adviser throughout the process. The student will be required to present the paper to peers, the PA program, and university faculty before graduation. The emphasis in this course is on final paper revision(s) and the capstone presentation.
Pre-requisite: successful completion of Capstone I
- PAS 534 Professional Seminar and Summative Evaluation 1 credit**
The course is delivered before, during, and after the clinical phase designed to augment the student's clinical experiences and promote continued learning of clinical reasoning by reinforcing the acquisition of medical knowledge, supporting the development of interpersonal communications skills, promoting professional excellence, and implementing improvements in practice by applying scholarly medical literature. A review of common medical topics and procedures, as well as professional development topics such as patient safety, prevention of medical errors, quality improvement, and risk management, will be covered. The course is conducted in lecture and small group setting with case studies and presentations. In this course, students will take a summative evaluation to verify successful completion of the NDMU program competencies required to enter clinical practice.
- PAS 535 Transition to PA Practice 1 credit**
This course will prepare students for future clinical practice. In this course, students can earn certifications such as Medication-Assisted Treatment (MAT training) and discussion about national certification, professional licensure, employment/contract negotiations, credentialing process, professional organizations, legislative topics, impairment, and burnout will occur.
Pre-requisite: successful completion of didactic and clinical rotations, Capstone I/II, Professional Seminar I/II

Total NDMU PA Studies Program Credits = 111