

# MD PROGRAM

## Accelerated Hershey Curriculum

Penn State College of Medicine has launched a set of "3+" pathways that allow students to select a concentration of study that will enhance/accelerate their professional development.

### Option 1: Three-Year MD Accelerated Pathways

Students will complete the medical degree in three years followed by residency training at Penn State in their chosen specialties, which currently include family medicine, emergency medicine, internal medicine, neurosurgery and orthopaedics. The benefits of the accelerated option include reduction of the cost of medical education and earlier career entry. The linkage of undergraduate and graduate medical education optimizes opportunities for continuity of patient care, mentoring and advising.

### Option 2: Clinician Scientist and Clinician Educator Pathways

These pathways allows students to achieve school-wide competencies and complete the core graduation requirements in three years while devoting the fourth year of medical school to either research (Clinician Scientist Pathway) or a Master of Education degree (Clinician Educator Pathway).

MORE INFORMATION ABOUT THE ACCELERATED HERSHEY CURRICULUM (<http://med.psu.edu/md/accelerated/>)

## Curriculum

### Year 1

- **Profession of Medicine I**
  - *Two weeks in the middle of July*
  - This course, the first you will attend at Penn State College of Medicine, is designed to help you make the transition to medical education and training and to begin to build some of the skills necessary for success in medical school and a career in medicine. The transition to medical school is a very important time in the life of every doctor. No longer are you in college or a master's program, striving for high grades as an end in and of themselves, or as a ticket to gaining admission to medical school. These first weeks mark that time when you join the collegial ranks of the profession, and medical school represents the first step of on-the-job training. Profession of Medicine continues throughout your medical school curriculum as you transition into clinical rotations and prepare for residency.
- **Medical Humanities**
  - *Beginning of August to first week in November*
  - Medical Humanities includes topics such as empathy, suffering and resilience, and the cultures of medicine and medical education.
- **The Science of Mind-Body**
  - *December to end of February, with break*
  - The Science of Mind-Body explores topics such as placebos, learned helplessness, behavior change and groupthink.
- **Critical Thinking**
  - *March to end of April, with break*
  - Critical Thinking takes up topics such as metacognition, cognitive errors and biases, intuitive versus analytic thinking, and medical decision-making in the face of uncertainty.
- **Science of Health Systems**
  - *August through May, with breaks*
  - This 17-month longitudinal course spans the full medical school experience with the main focus in Phases 1 and 2. In this new health systems component, students will experience a new Science of Health Systems curriculum, where they will learn the foundations of health systems, health care delivery, financing, insurance, population and public health, socio-ecological medicine, quality, safety, value, and teamwork and leadership. Additionally, students will serve as patient navigators within the health system. Both the curriculum and patient navigator experience will allow students to develop the knowledge, skills, and attitudes to function effectively amid the complexities of an evolving health system.
- **Foundations of Patient-Centered Care**
  - *Middle of July to next June, with breaks*
  - This course, which spans the first 19 months of medical school training at Penn State College of Medicine, is administered within each student's respective Society and is integrated with other first- and second-year courses. The course consists of three components: communication/clinical interviewing, physical examination, and integration, application and advancement teaching sessions.
- **Scientific Principles of Medicine**
  - *End of July through October*
  - This course is offered as part of the Hershey track.
- **Anatomy**
  - *End of October to beginning of June, with breaks*
  - Anatomy is taught through a series of block systems courses throughout Year 1: Musculoskeletal System, Hematology, Cardio-Respiratory Medicine and Renal Medicine.
- **Musculoskeletal System, Dermatology and Rheumatology**
  - *End of October to middle of December (with break)*
  - This course has three major components. The first is dedicated to orthopedics, the second to rheumatology, and the third to dermatology. The course integrates dermatology, immunology, family medicine (sports medicine), internal medicine (rheumatology), orthopedics, pathology, and pediatrics (rheumatology). The subject matter is linked as joint disease connects orthopedics and rheumatology and, immunology connects rheumatology and dermatology. The lecture content and problem-based learning cases will help to illustrate the "connectedness" of this block of material.
- **Hematology**
  - *End of December to middle of January, with break*
  - The goal of the hematology course is to provide students with an introduction to the pathophysiology, clinical manifestations, and the principles of treatment of diseases of the blood and blood-forming organs.

- **Cardio-Respiratory Medicine**

- *Middle of January to beginning of April*
- The Cardio-Respiratory course is the students' first intensive exposure to integrative physiology. Cardio-Respiratory Medicine requires mastery of cardiovascular and respiratory physiology, anatomy, embryology, histology, pathology, immunology and pharmacology, as well as the clinical science underlying cardiovascular and respiratory disease. Lectures and problem-based learning cases are augmented by hands-on EKG sessions, training in the techniques of cardiac physical examination, workshops, lung and heart sounds simulations and a ventilation simulation laboratory. Cardiovascular disease remains a leading killer of Americans and lung disease is prevalent; knowledge gained here will be useful throughout your entire medical career.

- **Renal Medicine**

- *End of April through May*
- The course provides an introduction to the physiology, anatomy, pharmacology, microbiology, and pathology of the kidneys and urinary tract. Topics include the relationship between structure and function of urinary system; fluid, electrolyte and acid/base homeostasis in health and disease; etiology and manifestations of common diseases of the kidneys; and cellular processes that mediate the actions of pharmacological agents active in the urinary system.

- **Clinical Skills Immersion**

- *Second week in April*
- This is a week of clinical skills immersion.

- **Primary Care Preceptorship**

- *One week in April*
- The Primary Care Preceptorship is an optional experience during spring break that provides an opportunity for first-year medical students to participate in an organized educational experience with physicians who are board certified in the specialties of family medicine, internal medicine, and/or pediatrics. This course is scheduled for one week and requires each student to complete 40 hours within the ambulatory care setting of his/her designated preceptor. All clinical training sites are reviewed to ensure the learning environment can provide students with the opportunity to achieve defined learning objectives and the physicians who teach are up-to-date on board certifications. The course offers a clinical experience early in the students' medical education and exposure to the fundamentals of patient care within the emerging models of health care in the 21st century. Students are offered clinical training experiences within the setting of the Commonwealth of PA, participating practices nationally, and an international track in affiliation with Global Brigades.

- **Reflection and Assessment**

- *First week in June*
- This is a week of reflection and assessment.

- **Acceleration Clerkships/Electives**

- *Middle of March through end of Year 2*
- This is the time when you will be accelerating your education to allow you to finish in 3 years.

## Year 2

- **Scholarship/Research and Global Health**

- *Summer, start of Year 2*
- Over the summer, students have the opportunity to do research for the Medical Student Research project and/or participate in Global Health opportunities.

- **Medical Ethics and Professionalism**

- *Middle of August through October*
- Medical Ethics and Professionalism provides students with a framework for decision making in the face of common ethical challenges and addresses issues involving autonomy, informed consent, advance care planning, medical mistakes and truth-telling.

- **Science of Health Systems**

- *Middle of August to early February of following year, with breaks*
- This 17-month longitudinal course spans the full medical school experience with the main focus in Phases 1 and 2. In this new health systems component, students will experience a new Science of Health Systems curriculum, where they will learn the foundations of health systems, health care delivery, financing, insurance, population and public health, socio-ecological medicine, quality, safety, value, and teamwork and leadership. Additionally, students will serve as patient navigators within the health system. Both the curriculum and patient navigator experience will allow students to develop the knowledge, skills, and attitudes to function effectively amid the complexities of an evolving health system.

- **Foundations of Patient-Centered Care**

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- **Gastrointestinal and Nutrition**

- *Middle of August to third week in September*
- This course provides exposure to the foundational basic science and advanced concepts necessary to understand the approaches used to diagnose, treat and manage disorders of nutrition, the oropharynx, esophagus, stomach, small and large bowel, pancreas, biliary system and liver. Foundational material will include integrative physiology of these organs. The students will develop the ability to differentially diagnose, describe treatments, and review management of nutritional disorders and support as well as diseases of the GI organs and liver. The pathogenesis, pathology, differential diagnosis, clinical course, and complications of GI and liver diseases will be covered along with aspects of clinical management, especially the pharmacology of drugs used to treat them. The course will augment large-group classroom learning opportunities with problem-based learning, wet laboratory and simulation laboratory experiences.

- **Endocrinology and Reproductive Medicine**
    - *Last week of September through middle of November*
    - The goal of this course is to learn about the general principles, physiology actions, causes and consequences of insufficiency or excess chemical messengers that function as hormones. These principles are then incorporated into the anatomy, histology and physiology of the female and male reproductive system, including pregnancy. Basic disease processes and therapeutics, including pharmacology, are also covered.
  - **Neural and Behavioral Science**
    - *End of November to middle of February, with break*
    - NBS incorporates basic neuroanatomy, neurophysiology, neurology, neuropathology, neuropharmacology, anesthesia, ophthalmology, radiology, behavioral science, and psychiatry. The goal is for students to understand the structure of the human nervous system, the biological mechanisms that underlie the functions of the nervous system, the neural basis of behavior, and the diagnosis, pathology and treatment of diseases that affect the nervous system by incorporating these topics with clinical relevance. The course also includes pathology wet labs and Neurology Day, where students interact in small groups with 14 patients who have various neurological disorders.
  - **Communication**
    - *Early November to middle of February, with break*
    - Communication focuses on exploring assumptions and biases that impact communication and communicating in dyads, teams, and larger systems.
  - **Profession of Medicine II**
    - *Last two weeks of February; Third week in April*
    - This course focuses on successfully transitioning students from preclinical to clinical training, building on the knowledge and clinical skills covered in Phase I. It includes advanced clinical skills training through simulation as well as several fundamental medical principles from various specialties that will be expanded and reinforced in subsequent clerkships. In addition, roles and responsibilities of a third-year medical student are covered through discussions on reflection, professionalism, and communication.
  - **Health Systems in Clerkships**
    - *March through end of Year 2*
    - Health Systems in Clerkships accompanies the Year 2 Clerkships.
  - **Clerkships**
    - *Beginning of March through end of next March*
    - Required core clinical clerkships begin toward the end of Year 2. Clerkships are taught in three blocks. See clerkship details here (<https://students.med.psu.edu/md-students/clerkships/>).
      - Block 1 clerkships are May to August.
      - Block 2 clerkships are August through third week of November.
      - Block 3 clerkships are end of November through March.
  - **Career Exploration and Synthesis**
    - *Three weeks over end of July/beginning of August*
    - This is a week and a half Career Exploration and Synthesis session.
  - **Clinically Integrated Medical Sciences**
    - *Middle of May to middle of March, next year*
    - This course will focus on building an integrated sciences approach into third-year medical students' clinical training. Mastery of the processes covered by the course will enhance students' ability to think critically about complex, clinical problems through the respective lenses of biomedical sciences, systems and social sciences. This course incorporates a humanities stripe dedicated to student reflection on clinical experiences while providing a supportive environment for sharing difficulties and insights.
  - **Assessment Week**
    - *Second week in August*
    - This is a reflection and assessment week at the end of Year 2.
- Year 3**
- **Clerkships**
    - *Middle of March*
    - Required core clinical clerkships begin toward the end of Year 2 and continue in Year 3. Clerkships are taught in three blocks. See clerkship details here (<https://students.med.psu.edu/md-students/clerkships/>).
      - Block 1 clerkships are May through the first two weeks of August.
      - Block 2 clerkships are August through most of November.
      - Block 3 clerkships are the end of November to the last week of March.
  - **Career Exploration and Synthesis**
    - *End of July, beginning of August*
    - This is a week and a half Career Exploration and Synthesis session.
  - **Clinically Integrated Medical Sciences**
    - *Middle of May through middle of March, next year, with breaks*
    - This course will focus on building an integrated sciences approach into third-year medical students' clinical training. Mastery of the processes covered by the course will enhance students' ability to think critically about complex, clinical problems through the respective lenses of biomedical sciences, systems and social sciences. This course incorporates a humanities stripe dedicated to student reflection on clinical experiences while providing a supportive environment for sharing difficulties and insights.
  - **Acceleration Clerkships/Electives**
    - *August through end of Year 2*
    - This is the time when you will be accelerating your education to allow you to finish in 3 years.
  - **Kienle Groups**
    - *Year 3, with breaks*
    - The Kienle Group curriculum is part of a broader Humanities stripe across the entire Penn State curriculum and provides an opportunity for students to talk candidly about their personal challenges and perspectives as they move through their clinical clerkships. The sessions take place on designated Fridays during the course of the Clerkship year.

- **Health Systems in Clerkships**
  - *Beginning of March through end of Year 3 clerkships*
  - Health Systems in Clerkships accompanies the Year 3 Clerkships.
- **Assessment Week**
  - *Second week in August; Third week in November*
  - These are reflection and assessment weeks during Year 3.
- **Formative OSCE**
  - *Second week in November*
  - Students take formative and summative OSCEs prior to starting Phase III.
- **Career Exploration and Synthesis**
  - *July/August; Early November; Middle of March*
  - These are week-and-a-half Career Exploration and Synthesis sessions.
- **USMLE Study**
  - *January to March*
  - USMLE study begins midway through the third year.
- **Translating Health Systems**
  - *End of March*
  - Phase III begins with a two-week Translating Health Systems intersession. This course is designed to help students apply concepts of patient safety, quality improvement, value, and teams to the clinical setting. It provides students with opportunities to actively identify patient safety issues and develop a quality improvement project proposal. By design, this course emphasizes teamwork, an essential component in providing quality patient care. The goal is to guide learning in these concepts so that students will have the base knowledge to help improve care of their patients and the health system in which they will work during the fourth year of medical school and in residencies.
- **Residency Prep**
  - Phase IV includes residency preparation, interviews and two total acting internships in different clinical fields or one acting internship and one critical care rotation. Additional requirements include one humanities selective, completing six total electives (to include electives from Phase II and Phase III), and the Profession of Medicine III course (Transition to Internship). All graduation requirements are confirmed to be completed during this time. The College of Medicine offers a variety of clinical, teaching and research electives for students during this phase.
- **USMLE**
  - *End of January through beginning of May*
  - Students prepare for and take USMLE Step 1, Step 2 CS and Step CK before the end of Year 3.