MD PROGRAM

Overview

Penn State College of Medicine offers a complete medical education program leading to the MD degree. Its central campus is located in Hershey, PA adjacent to Penn State Health Milton S. Hershey Medical Center, which is a part of Penn State Health's multi-hospital health system.

In addition to the program's central curriculum in Hershey, there are two parallel options within the overall medical education program. Our Accelerated Pathways are located on the central campus in Hershey, and our University Park Curriculum is located in University Park, PA.

All students will be expected to meet our 10 competencies (https://students.med.psu.edu/md-students/medical-student-competencies-and-subcompetencies-for-graduation/) and minimum essential standards (https://students.med.psu.edu/md-students/handbook/#question_minimumessentialstandardsformatriculationpromotionandgraduation) before graduating with an MD degree.

Our Vision

Our goal is to train humanistic, systems-ready physicians who are adaptive, critical-thinking, collaborative, and scholarly.

Traditionally, medical education has focused on two pillars: medical science and clinical care. As health care delivery rapidly shifts from physician-centric to patient-centric, and patient care involves both the care of the individual and the care of populations, a more comprehensive model is needed.

At Penn State College of Medicine, the two pillars have transformed to four:

- Biomedical Sciences
- Health Humanities
- Clinical Science
- Health Systems Sciences

Educational Options

Our curriculum options are open to all enrolled MD students. Once you're accepted for admission to Penn State College of Medicine, you will be able to apply for the specific curriculum option you want. For combined degrees (https://med.psu.edu/combined-programs/), you will need to meet the requirements and gain acceptance into the other program independent of the MD program.

Admission Requirements

Penn State College of Medicine is committed to developing tomorrow's diverse group of humanistic, systems-thinking physicians who will serve a broad spectrum of communities and lead in many areas of our health care system. We seek applicants who come to medicine with a passion to serve and a commitment to excellence and life-long learning. We seek students who bring a full, rigorous, and holistic backgrounds of study and experiences to medical school.

We accept students with good standing backgrounds who are, or will be, graduates of accredited colleges and universities in the U.S. or Canada before matriculation to Penn State College of Medicine. There are no restrictions on the type of major a student selects who possesses competencies in the designated prerequisite areas outlined below. The Medical College Admissions Test (MCAT) is required and used in a holistic manner with other aspects of the application in the selection process.

Prerequisite Preparation For Admission

Penn State College of Medicine recognizes that its applicants bring varied and rich undergraduate academic and personal experiences to their admissions credentials. In order to acknowledge the diversity and flexibility of our applicants' preparation, we have chosen to describe the competencies we expect of our students at the time of entry into medical school. Instead of listing prerequisite course requirements, we describe required competencies that will most often be met through traditional and/or newly established interdisciplinary courses of study in an accredited institution of higher learning. We define competency as the acquired knowledge to solve problems in the discipline. Applicants will indicate whether the acquired competency was obtained by course work or other activity such as research or work. Competitive applicants should demonstrate competency in each of the following five areas adapted from the MCAT description (https://students-residents.aamc.org/applying-medical-school/article/whats-mcat-exam/):

- **Biological and Biochemical Foundations of Living Systems:** The contribution of biomolecules to the structure and function of cells; the interaction of molecules, cells and organs in carrying out the functions of living organisms; the interplay of complex systems, tissues and organs in sensing internal and external environments and maintaining internal environment stability in the setting of changing external environments.
- **Chemical and Physical Foundations of Biological Systems:** Application of physical principles to explain how complex living organisms transport materials, sense their environment, process signals and respond to changes; use of principles that govern chemical interactions and reactions to form the basis for the molecular dynamics of living systems.
- **Psychological, Social and Biological Foundations of Behavior:** Biological, psychological and sociocultural factors that influence how individuals perceive, think about and react to the world; how they influence behavior and behavior change; how we think about ourselves and interact with others; and how they influence well-being and access to resources that influence well-being.
- **Critical Analysis and Reasoning Skills:** Comprehension of texts, extrapolating ideas to new contexts; assessing the impact of introducing new factors, information or conditions to ideas from the text.
- **Scientific Inquiry and Thinking & Reasoning:** Knowledge of scientific principles, scientific reasoning and problem-solving reasoning about the design and execution of research;data-based statistical reasoning; and general mathematical concepts and techniques.

Mastery of competencies is reflected by a strong performance in the classroom and on the MCAT, knowledge gained from formative experiences, and letters of recommendation. Applicants should have engaged in in-depth study based on the AAMC-HHMI Scientific Foundations for Future Physicians (https://store.aamc.org/scientific-foundations-for-future-physicians-pdf.html) and AAMC Behavioral and Social Science Foundations for Future Physicians (https://store.aamc.org/behavioral-and-social-science-foundations-for-future-physicians-pdf.html).

In addition to the above science and thinking and reasoning competencies, Penn State College of Medicine expects applicants to demonstrate achievement of interpersonal and intrapersonal

competencies as described within the AAMC Core Competencies for Entering Medical Students (https://students-residents.aamc.org/applying-medical-school/article/core-competencies/).

Coursework and Experience

Although the most common methods of becoming competent in the areas described above will be formal coursework and personal experiences, we acknowledge that students may accomplish the learning in other ways. Alternative methods of preparation, in combination with coursework, might include research or employment experiences.

Advanced Placement Coursework

Penn State College of Medicine recognizes Advanced Placement (AP) courses for competencies only if they appear as earned credits on the applicant's college transcript. However, many of the most competitive applicants have fulfilled AP coursework in those same areas during their baccalaureate years.

Core Curriculum and Competencies

The central curriculum and the two parallel tracks share numerous curricular elements, the result of deliberate educational program design that ensures comparability. At the core, they share the same vision, core curriculum, three-phase curriculum framework, graduation and education program competencies.

MD Program Vision

To guide the development of a humanistic, systems-ready physician who is adaptive, critical-thinking, collaborative and scholarly.

Core Curriculum

The core curriculum, defined by the Committee on Undergraduate Medical Education (CUMED) is built on a four-pillar framework of 1) Biomedical Sciences, 2) Health Humanities, 3) Clinical Sciences, and 4) Health Systems Sciences.

MD Curriculum

The experience of a Penn State College of Medicine MD student comprises three phases:

- **Phase I - Foundations:** Students in Penn State College of Medicine, whether in the Hershey curriculum, one of the 3+ accelerated pathways in Hershey or the University Park curriculum, engage in two common instructional formats – small-group problem-based learning and direct patient experiences – with variations on the intensity with which each is used. For both Hershey and University Park students, lectures supplement the instructional formats.
- **Phase II - Clinical Core:** Students all complete the same seven core clerkships, though the instructional format may be in blocks or longitudinal. All students must take USMLE Step 1 before progressing to Phase III.
- **Phase III - Discovery & Residency Prep:** Two required courses – Translating Health Systems Science to the Clinical Setting and Transition to Internship are common for all students. Additionally, all students must complete two acting internships, a Humanities selective and electives to enhance their-competency-directed progression in learning, professional identity formation and residency preparation.

All students will be expected to meet the college's list of competencies (http://students.med.psu.edu/md-students/medical-student-competencies-and-subcompetencies-for-graduation/) before graduating with an MD degree.

Core Competencies

The core competencies for Penn State College of Medicine are:

1. Patient Care
2. Knowledge for Practice
3. Practice-Based Learning and Improvement
4. Interpersonal and Communication Skills
5. Professional Behaviors
6. Systems-Based Practice
7. Health Humanities

Hershey Curriculum

The practice of medicine is constantly changing. Many of these changes are part of a transformation that will alter the way healthcare is organized and delivered in the future.

The three-phase curriculum is learner-centered and has been developed to prepare students for a successful career in a more integrated healthcare system. Graduates will meet all of the required competencies and subcompetencies.

The committee on undergraduate medical education, composed of faculty and students, meets regularly to evaluate and modify the curriculum to keep pace with new knowledge and changes in healthcare delivery.

About Patient Experience Program

Penn State College of Medicine's Patient Experience Program launched in 2014, immerses students into the profession of medicine and into interprofessional teams to develop skills needed to practice medicine.

The curriculum integrates core systems sciences such as health policy, high-value care and population and public health with two threads related to evidence-based medicine; it also includes teamwork and leadership training throughout each of the seven modules.

The patient experience program provides value-added clinical systems learning roles that allow students to learn about healthcare delivery while also providing an opportunity for students to assist in guiding patients through the complicated process of getting the care they need.

Emphasis on Humanities

We value the art of healing — not just the science of it. Penn State College of Medicine was the first medical school in the United States to have a dedicated humanities department, and this focus is reflected in our curriculum:

- **Phase 1:** Humanities coursework every Tuesday morning
- **Phase 2:** Humanities stripe across clerkships ("backstory rounds")
- **Phase 3:** Month-long humanities selective (required). Recently offered courses include:
  - Human Virtue
  - Jazz and the Art of Medicine
  - Graphic Storytelling (https://sites.psu.edu/graphicnarratives/)
  - Medical Narratives

Additional humanities activities include the Farmers Market in Hershey, the arts and literature journal Wild Onions (https://sites.psu.edu/

wildonions/), and the Kienle Center Players (https://sites.psu.edu/kienlecenter/), a drama group.

Societies

A supportive community is powerful, especially in a rigorous learning environment like medical school. At the College of Medicine, four learning communities — called Societies — provide a way for students and faculty to connect, encourage, and learn from each other.

Each Society has a faculty Society head, approximately seven to eight Society advisors (each clinical faculty member is assigned to five first-year, five second-year, five third-year and five fourth-year students), College of Medicine alumni (both within the College and from the community), and two to three basic science faculty.

Curriculum

Year 1

- **Transition to Medical School**
  - *One week in the middle of July*
  - This course, the first students attend at Penn State College of Medicine, is designed to help them 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 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 medical students join the collegial ranks of the profession, and medical school represents the first step of on-the-job training. The Transitions series continues throughout the medical school curriculum as students transition into clinical rotations and prepare for residency.

- **Scientific Principles of Medicine**
  - *End of July to mid-September*
  - This course will provide a wide-range of scientific knowledge that underlies medical practice. Relevant material for SPM is drawn from biochemistry, physiology, histology, genetics, cell biology, molecular biology, and hematology. In addition, fundamental concepts of pharmacology are introduced. Because of the breadth and depth of material presented in this course, SPM is a team-taught course involving faculty with multiple expertise. As a consequence of this diversity, you will be exposed to a number of different teaching philosophies.

- **Foundations of Health Humanities**
  - *End of July to end of October*
  - Foundations of Health Humanities is focused on introducing habits of mind, core knowledge, and skills that students will use throughout all four years of medical school. Primary goals will be to address how cultural contexts affect medicine and health care (and vice versa), and how to think and act critically, ethically and with cultural humility in a pluralistic society. The course also focuses on issues of pressing social interest, including structural inequities like racism in medicine, justice and unconscious bias.

- **Foundations of Health Systems Science**
  - *Mid-July through December*
  - Foundations of Health Systems Science is the first course in the Health Systems Science longitudinal curriculum, which is focused on introducing the foundations of health systems science, including health care structure and process, health care financing, interprofessional roles and teaming, and evidence-based medicine.

    Patient Experience Program

    A key component of the longitudinal health systems curriculum is the patient experience program (PEP). During the first year, students will a semester serving as guides to help patients navigate through the sometimes-complicated process of getting the care they need. The goals of PEP are for students to:

    i. build a therapeutic patient relationship;
    ii. take patient histories that include screening and identifying social determinants of health;
    iii. work with the healthcare team to mitigate the social determinants of health, and;
    iv. understand interprofessional roles and communicate with interprofessional teams.

- **Foundations of Patient-Centered Care**
  - *Mid-July through mid-June, with breaks*
  - Foundations of Patient-Centered Care (FPCC) is a longitudinal course that spans Phase 1 of medical school training at Penn State College of Medicine. It is administered within a student's respective Society and integrated with other courses. In FPCC, students learn communication, professionalism, history-taking, physical examination, oral presentations, written documentation and clinical reasoning. The primary goal of FPCC is to prepare students to skillfully communicate, interview, examine and assess patients during the third and fourth years of medical school (and throughout their careers). Coursework, facilitated by Society adviser coaches, includes small group and standardized patient sessions held in the College of Medicine classrooms, as well as applied clinical skills sessions held in inpatient or outpatient settings. This combination of classroom and clinical settings provides students the opportunity to apply learned skills to actual patient encounters.

- **Host Defense/Host Response**
  - *Mid-September to early November*
  - The Host Defense/Host Response (HDHR) course addresses how the body maintains wellness and responds to threats. The primary learning goals focus on concepts in microbiology and infectious disease, immunology and oncology. This eight-week integrated course spans September to November of the Phase I first year. Problem-based learning (PBL) serves as the course's backbone, complemented by large-group interactive sessions, patient encounters and clinical reasoning sessions. There are also opportunities to integrate Health Systems Science, Health Humanities and frontiers of inquiry to add perspective and depth to the learning experience.

- **Cardiovascular Medicine**
  - *Mid-November through mid-December*
  - Course provides exposure to basic concepts in histology/pathology, biochemistry, physiology, pharmacology, cardiovascular and thoracic anatomy, and clinical medicine related to cardiovascular medicine.

- **Respiratory Medicine**
  - *Early January through mid-February*
  - Introduction to normal and abnormal structure and processes of the respiratory system, principles of therapeutics and factors affecting disease treatment and prevention.
- **Health Systems Science in Context**
  - *Mid-January through May*
  - Health Systems Science in Context will build on the foundations of health systems science by focusing on the health systems science components of population health, health information technology, economics and value-based care, and healthcare policy.
- **Humanities in Context**
  - *Mid-January to mid-April, with breaks*
  - Humanities in Context seeks to develop students' humanistic sensitivity, which includes ethical sensitivity, narrative disposition, critical consciousness and navigating complexity and uncertainty. The course will be aligned with the PBL/organ system courses.
- **Renal Medicine**
  - *Mid-February to mid-March*
  - 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.
- **Form and Function and Anatomy**
  - *Mid-March through early May*
  - This course has four major and overlapping components: anatomy, rheumatology, orthopedics and 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.
- **Gastrointestinal Pathophysiology and Nutrition and Anatomy**
  - *Early May through mid-June*
  - 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.
- **Objective Structured Clinical Examination (OSCE)**
  - *May*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.
- **Medical Student Research and Global Health**
  - *Summer, end of Year 1*
  - Over the summer, students have the opportunity to do research for the Medical Student Research project and/or participate in Global Health opportunities.

Year 2

- **Medical Student 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.
- **Science of Health Systems**
  - *August through December, with breaks*
  - Science of Health Systems is the third course in the longitudinal health systems science curriculum. In this year 2 course, the curriculum expands its focus on the health systems science components of quality improvement and patient safety and introduces methods of design thinking and the application of Six Sigma methodology to improve population health and patient safety. This course also focuses on leadership and preparation for clerkships including individual focus systems in various clinical environments as well as providing instruction on patient-centered care for patients with disabilities.
- **Foundations of Patient-Centered Care**
  - *August through December, with breaks*
  - This course, which spans Phases I and II 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.
- **Endocrinology/Reproductive Medicine and Anatomy**
  - *August through September*
  - 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.

- **Communication**
  - *August through December, with breaks*
  - Communication focuses on exploring assumptions and biases that impact communication and communicating in dyads, teams, and larger systems.
- **Neural and Behavioral Science and Anatomy**
  - *Early October to December, with breaks*
  - 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 about 14 patients who have various neurological disorders.
- **USMLE Study and Consolidation**
  - Upon completion of Phase I, students are given a dedicated study period for USMLE I.
- **Clerkships**
  - *Beginning at end of February*
  - Required core clinical clerkships begin toward the end of Year 2. Clerkships are taught in two blocks. See clerkship details here (https://students.med.psu.edu/md-students/clerkships/).
    - Block 1 clerkships are March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.
- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Health systems is embedded in the clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *December*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.

Year 3

- **Clerkships**
  - *End of February Year 2 through mid-March of Year 3*
  - 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 March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.
- **Humanities Across Clerkships**
  - *Twice monthly during clerkships, March of Year 2 through mid-March of Year 3*
  - Phase II Clerkships can present emotional, physical and psychosocial challenges for medical students when rotating in the clinical environment for the first time. Humanities Across Clerkships (HAC) is a longitudinal course for medical students engaged in Phase II clerkships to reflect upon issues encountered in the clinical learning environment related to Humanities and career development. Medical students will work together to formulate solutions that will ultimately promote professional identity formation and advance career development while serving as a venue to discuss stressors and challenges. The sessions will be run in a virtual format or in-person and will be facilitated by a trained faculty member in a safe, nurturing and cultivating environment. By the end of the course, medical students will be able to process the challenges of and changes to professional identity while interacting with the clinical learning environment; cultivate individualized skills and tools to advance career development and to deliver patient-centered care; and utilize and solicit near-peer learning and mentorship with compassionate and respectful communication skills.
- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Heath systems is embedded in the clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *Two weeks at beginning of March*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.
- **Systems-Conscious and Humanistic Medicine**
  - *Two weeks at the end of March*
  - Phase III begins with a two-week course in Systems-Conscious and Humanistic Medicine. This course revisits key health systems science and humanities concepts in the context of clerkships, while also preparing students for the UME to GME transition. Students will practice advanced clinical skills that require excellence in humanities and systems domains, such as how to perform quality improvement projects, effectively transition care of a patient to a night team or separate team entirely, place orders and call consults, organize a team in urgent care situations, and how to engage in an informed consent dialogue. In addition, the course includes key professional development topics such as instruction on building a personal statement for residency applications, the process of selecting residency programs to which to apply and approaches to residency interview season.
- **USMLE Study**
  - *April through mid-September*
  - Upon completion of Phase II clerkships, students can select a four-week dedicated study period for USMLE 2CK.

- **Phase III: Discovery and Residency Prep**
  - *Starting in April*
  - Students enter Phase III: Discovery and Residency Prep following USMLE Board Prep. The Discovery portion of the phase provides students with opportunities for additional career explorations, time to synthesize principles learned in Phase II and additional time for focused research. This portion of the phase includes Systems-Conscious and Humanistic Medicine.

    As students confirm their residency choice, they move into the Residency Prep portion of the phase. This time provides students with opportunities to refine knowledge and skills as they prepare for entry into residencies. This portion of the phase includes variety of electives, two acting internships and a Humanities selective. Students also prepare for and take the USMLE Step 2 CK in the earlier part of Year 4. The phase is completed by the capstone course, Transition to Internship, followed by graduation.

Year 4

- **Phase III: Discover and Residency Prep**
  - *July to May, with breaks*
  - This portion of Phase III includes residency preparation, interviews, and the following course completions:
    - 2 acting internships at Penn State Health or Penn State College of Medicine affiliates, including:
      - 1 specialty-based core acting internship and
      - 1 critical care or emergency medicine core acting internship
    - 1 humanities selective
    - 24 weeks of electives (including at least 12 weeks at Penn State Health or College of Medicine Affiliates)
    - 2 or more 4-week clinical rotations must taken within 5 months of graduation
    - Translating Health Systems course
    - Transition to Internship course

- **Transition to Internship**
  - *Beginning of May to mid-May*
  - The Transition to Internship course occurs at the end of each student's medical school career and builds on these concepts in preparation for residency training. Transition to Internship is the final requirement for each graduating fourth-year medical school class, taking place just prior to medical school graduation. Its structure includes both large group workshops (involving the entire fourth-year class) and a number of small group "selective" sessions. Transition to Internship was designed with goals of providing review and practice of key clinical skills and concepts, as well as introduction of new information regarding communication and collaboration with other health professionals, teaching and evaluation strategies for interns in their educator roles and practice in effective patient handoffs. The course also includes time for reflection on professional responsibilities, personal stressors and individual support systems.

- **Graduation**
  - *Mid-May*
  - See the graduation section of this site (https://students.med.psu.edu/graduation-information/) for more details.

University Park Curriculum

Penn State College of Medicine has a tradition of excellence in education that is scientifically and clinically rigorous with a deep foundation in scholarship and humanistic care. The University Park Regional Campus invites you to learn in an environment that fosters inter-professional team skills, curiosity and a commitment to lifelong learning.

The University Park Curriculum builds provides unique opportunities supported by:

- A community-based medical center in a rural Central Pennsylvania setting
- A diverse, research-intensive university; and
- Medical school faculty and staff dedicated to student success

The University Park Curriculum integrates basic and clinical sciences with health systems science and health humanities. An additional focus on rural community engagement and experiential, trans-professional learning makes State College a uniquely robust setting for your undergraduate medical education.

Curriculum Highlights

Rural Community-Based Experiential Learning

Longitudinal collaboration with multiple rural communities in the surrounding area is the focus for multiple student-led activities (e.g., Lion Care clinic; LION Mobile Clinic).

Individualized Mentoring

Our small class size allows for one-on-one mentoring from core faculty and community-based preceptors. Individualized "coaching" augments your longitudinal educational programming.

Rural Focus

As part of our commitment to serving surrounding rural communities, the UP curriculum collaboratively addresses complex rural healthcare challenges to provide meaningful and implementable solutions. Lion Care and LION Mobile Clinics are examples of student-led initiatives to increase access to health care for under-resourced rural communities of central Pennsylvania

A Culture of Respect and Humanistic Care

Penn State College of Medicine was the first medical school in the nation with a Department of Humanities and we remain committed to fostering the development of humanistic, systems-conscious health care professionals. The University Park Curriculum utilizes patient experiences, integrated small group activities, and faculty mentorship to longitudinally foster your professional development.

Financial Support

University Park Medical Students receive a partial scholarship for each year of medical school.

Leadership and Advocacy

Skills in leadership and advocacy are essential in caring for underserved communities. Intentional programming to support your development in leadership and advocacy is part of your experience at University Park.

Curriculum

Year 1

- **Transition to Medical School**
  - *One week in the middle of July*
  - This course, the first students attend at Penn State College of Medicine, is designed to help them 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 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 medical students join the collegial ranks of the profession, and medical school represents the first step of on-the-job training. The Transitions series continues throughout the medical school curriculum as students transition into clinical rotations and prepare for residency.

- **Scientific Principles of Medicine**
  - *End of July to mid-September*
  - This course will provide a wide-range of scientific knowledge that underlies medical practice. Relevant material for SPM is drawn from biochemistry, physiology, histology, genetics, cell biology, molecular biology, and hematology. In addition, fundamental concepts of pharmacology are introduced. Because of the breadth and depth of material presented in this course, SPM is a team-taught course involving faculty with multiple expertise. As a consequence of this diversity, you will be exposed to a number of different teaching philosophies.

- **Foundations of Health Humanities**
  - *End of July to end of October*
  - Foundations of Health Humanities is focused on introducing habits of mind, core knowledge, and skills that students will use throughout all four years of medical school. Primary goals will be to address how cultural contexts affect medicine and health care (and vice versa), and how to think and act critically, ethically and with cultural humility in a pluralistic society. The course also focuses on issues of pressing social interest, including structural inequities like racism in medicine, justice and unconscious bias.

- **Foundations of Health Systems Science**
  - *Mid-July through December*
  - Foundations of Health Systems Science is the first course in the Health Systems Science longitudinal curriculum, which is focused on introducing the foundations of health systems science, including health care structure and process, health care financing, interprofessional roles and teaming, and evidence-based medicine.

    Patient Experience Program

    A key component of the longitudinal health systems curriculum is the patient experience program (PEP). During the first year, students will a semester serving as guides to help patients navigate through the sometimes-complicated process of getting the care they need. The goals of PEP are for students to:

    i. build a therapeutic patient relationship;
    ii. take patient histories that include screening and identifying social determinants of health;
    iii. work with the healthcare team to mitigate the social determinants of health, and;
    iv. understand interprofessional roles and communicate with interprofessional teams.

- **Foundations of Patient-Centered Care**
  - *Mid-July through mid-June, with breaks*
  - Foundations of Patient-Centered Care (FPCC) is a longitudinal course that spans Phase 1 of medical school training at Penn State College of Medicine. It is administered within a student's respective Society and integrated with other courses. In FPCC, students learn communication, professionalism, history-taking, physical examination, oral presentations, written documentation and clinical reasoning. The primary goal of FPCC is to prepare students to skillfully communicate, interview, examine and assess patients during the third and fourth years of medical school (and throughout their careers). Coursework, facilitated by Society adviser coaches, includes small group and standardized patient sessions held in the College of Medicine classrooms, as well as applied clinical skills sessions held in inpatient or outpatient settings. This combination of classroom and clinical settings provides students the opportunity to apply learned skills to actual patient encounters.

- **Host Defense/Host Response**
  - *Mid-September to early November*
  - The Host Defense/Host Response (HDHR) course addresses how the body maintains wellness and responds to threats. The primary learning goals focus on concepts in microbiology and infectious disease, immunology and oncology. This eight-week integrated course spans September to November of the Phase I first year. Problem-based learning (PBL) serves as the course's backbone, complemented by large-group interactive sessions, patient encounters and clinical reasoning sessions. There are also opportunities to integrate Health Systems Science, Health Humanities and frontiers of inquiry to add perspective and depth to the learning experience.

- **Cardiovascular Medicine**
  - *Mid-November through mid-December*
  - Course provides exposure to basic concepts in histology/pathology, biochemistry, physiology, pharmacology, cardiovascular and thoracic anatomy, and clinical medicine related to cardiovascular medicine.

- **Respiratory Medicine**
  - *Early January through mid-February*
  - Introduction to normal and abnormal structure and processes of the respiratory system, principles of therapeutics and factors affecting disease treatment and prevention.

- **Health Systems Science in Context**
  - *Mid-January through May*
  - Health Systems Science in Context will build on the foundations of health systems science by focusing on the health systems science components of population health, health information technology, economics and value-based care, and healthcare policy.

- **Humanities in Context**
  - *Mid-January to mid-April, with breaks*
  - Humanities in Context seeks to develop students' humanistic sensitivity, which includes ethical sensitivity, narrative disposition, critical consciousness and navigating complexity and uncertainty. The course will be aligned with the PBL/organ system courses.

- **Renal Medicine**
  - *Mid-February to mid-March*
  - 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.

- **Form and Function and Anatomy**
  - *Mid-March through early May*
  - This course has four major and overlapping components: anatomy, rheumatology, orthopedics and 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.

- **Gastrointestinal Pathophysiology and Nutrition and Anatomy**
  - *Early May through mid-June*
  - 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.

- **Objective Structured Clinical Examination (OSCE)**
  - *May*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.

- **Medical Student Research and Global Health**
  - *Summer, end of Year 1*
  - Over the summer, students have the opportunity to do research for the Medical Student Research project and/or participate in Global Health opportunities.

Year 2

- **Medical Student 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.

- **Science of Health Systems**
  - *August through December, with breaks*
  - Science of Health Systems is the third course in the longitudinal health systems science curriculum. In this year 2 course, the curriculum expands its focus on the health systems science components of quality improvement and patient safety and introduces methods of design thinking and the application of Six Sigma methodology to improve population health and patient safety. This course also focuses on leadership and preparation for clerkships including individual focus systems in various clinical environments as well as providing instruction on patient-centered care for patients with disabilities.

- **Foundations of Patient-Centered Care**
  - *August through December, with breaks*
  - This course, which spans Phases I and II 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.

- **Endocrinology/Reproductive Medicine and Anatomy**
  - *August through September*
  - 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.

- **Communication**
  - *August through December, with breaks*
  - Communication focuses on exploring assumptions and biases that impact communication and communicating in dyads, teams, and larger systems.

- **Neural and Behavioral Science and Anatomy**
  - *Early October to December, with breaks*
  - 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 about 14 patients who have various neurological disorders.

- **USMLE Study and Consolidation**
  - Upon completion of Phase I, students are given a dedicated study period for USMLE I.
- **Clerkships**
  - *Beginning at end of February*
  - Required core clinical clerkships begin toward the end of Year 2. Clerkships are taught in two blocks. See clerkship details here (https://students.med.psu.edu/md-students/clerkships/).
    - Block 1 clerkships are March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.
- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Health systems is embedded in the clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *December*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.

Year 3

- **Clerkships**
  - *End of February Year 2 through mid-March of Year 3*
  - 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 March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.
- **Humanities Across Clerkships**
  - *Twice monthly during clerkships, March of Year 2 through mid-March of Year 3*
  - Phase II Clerkships can present emotional, physical and psychosocial challenges for medical students when rotating in the clinical environment for the first time. Humanities Across Clerkships (HAC) is a longitudinal course for medical students engaged in Phase II clerkships to reflect upon issues encountered in the clinical learning environment related to Humanities and career development. Medical students will work together to formulate solutions that will ultimately promote professional identity formation and advance career development while serving as a venue to discuss stressors and challenges. The sessions will be run in a virtual format or in-person and will be facilitated by a trained faculty member in a safe, nurturing and cultivating environment. By the end of the course, medical students will be able to process the challenges of and changes to professional identity while interacting with the clinical learning environment; cultivate individualized skills and tools to advance career development and to deliver patient-centered care; and utilize and solicit near-peer learning and mentorship with compassionate and respectful communication skills.
- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Heath systems is embedded in the clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *Two weeks at beginning of March*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.
- **Systems-Conscious and Humanistic Medicine**
  - *Two weeks at the end of March*
  - Phase III begins with a two-week course in Systems-Conscious and Humanistic Medicine. This course revisits key health systems science and humanities concepts in the context of clerkships, while also preparing students for the UME to GME transition. Students will practice advanced clinical skills that require excellence in humanities and systems domains, such as how to perform quality improvement projects, effectively transition care of a patient to a night team or separate team entirely, place orders and call consults, organize a team in urgent care situations, and how to engage in an informed consent dialogue. In addition, the course includes key professional development topics such as instruction on building a personal statement for residency applications, the process of selecting residency programs to which to apply and approaches to residency interview season.
- **USMLE Study**
  - *April through mid-September*
  - Upon completion of Phase II clerkships, students can select a four-week dedicated study period for USMLE 2CK.
- **Phase III: Discovery and Residency Prep**
  - *Starting in April*
  - Students enter Phase III: Discovery and Residency Prep following USMLE Board Prep. The Discovery portion of the phase provides students with opportunities for additional career explorations, time to synthesize principles learned in Phase II and additional time for focused research. This portion of the phase includes Systems-Conscious and Humanistic Medicine.

    As students confirm their residency choice, they move into the Residency Prep portion of the phase. This time provides students with opportunities to refine knowledge and skills as they prepare for entry into residencies. This portion of the phase includes variety of electives, two acting internships and a Humanities selective. Students also prepare for and take the USMLE Step 2 CK in the earlier part of Year 4. The phase is completed by the capstone course, Transition to Internship, followed by graduation.

Year 4

- **Phase III: Discover and Residency Prep**
  - *July to May, with breaks*
  - This portion of Phase III includes residency preparation, interviews, and the following course completions:
    - 2 acting internships at Penn State Health or Penn State College of Medicine affiliates, including:
      - 1 specialty-based core acting internship and
      - 1 critical care or emergency medicine core acting internship
    - 1 humanities selective
    - 24 weeks of electives (including at least 12 weeks at Penn State Health or College of Medicine Affiliates)
    - 2 or more 4-week clinical rotations must taken within 5 months of graduation
    - Translating Health Systems course
    - Transition to Internship course

- **Transition to Internship**
  - *Beginning of May to mid-May*
  - The Transition to Internship course occurs at the end of each student's medical school career and builds on these concepts in preparation for residency training. Transition to Internship is the final requirement for each graduating fourth-year medical school class, taking place just prior to medical school graduation. Its structure includes both large group workshops (involving the entire fourth-year class) and a number of small group "selective" sessions. Transition to Internship was designed with goals of providing review and practice of key clinical skills and concepts, as well as introduction of new information regarding communication and collaboration with other health professionals, teaching and evaluation strategies for interns in their educator roles and practice in effective patient handoffs. The course also includes time for reflection on professional responsibilities, personal stressors and individual support systems.

- **Graduation**
  - *Mid-May*
  - See the graduation section of this site (https://students.med.psu.edu/graduation-information/) for more details.

Accelerated Hershey Curriculum

Penn State College of Medicine has a portfolio of 3+ pathways that allow students to select a concentration of study that will enhance/accelerate their professional development. Penn State College of Medicine is a member of the national Consortium of Accelerated Medical Pathway Programs (https://www.acceleratedmdpathways.org/) (CAMPP), initially funded by the Josiah Macy Jr. Foundation.

Option 1: Three-Year MD Accelerated Pathways

The three-year MD Accelerated Pathways provide students the opportunity to complete medical school in three years with directed pathway into one of Penn State's residency programs, pending successful completion of their medical school training. Upon meeting the academic and professional standards for graduation from medical school, students are ranked to match into a Penn State Health residency program through the National Resident Matching Program®. Should students choose to rank Penn State, they would be positioned to match at Penn State College of Medicine for residency.

Penn State's accelerated MD Program is unique in that its pathways are designed to optimize the UME-GME continuum and allow students who already know their career path to progress into one of these specialties: family medicine, internal medicine and psychiatry. There are also accelerated pathways that are designed to accommodate the timelines for MD/PhD students in dermatology, neurosurgery and otolaryngology.

The benefits of the accelerated options include reduction of medical education costs 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 allow students to achieve school-wide competencies and complete the core graduation requirements in approximately three years while devoting the majority of 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 (https://med.psu.edu/md/accelerated/)

Curriculum

Year 1

- **Transition to Medical School**
  - *One week in the middle of July*
  - This course, the first students attend at Penn State College of Medicine, is designed to help them 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 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 medical students join the collegial ranks of the profession, and medical school represents the first step of on-the-job training. The Transitions series continues throughout the medical school curriculum as students transition into clinical rotations and prepare for residency.

- **Scientific Principles of Medicine**
  - *End of July to mid-September*
  - This course provides a wide-range of scientific knowledge that underlies medical practice. Relevant material for SPM is drawn from biochemistry, physiology, histology, genetics, cell biology, molecular biology and hematology. In addition, fundamental concepts of pharmacology are introduced. Because of the breadth and depth of material presented in this course, SPM is a team-taught course involving faculty with multiple expertise. As a consequence of this diversity, you will be exposed to a number of different teaching philosophies.

- **Foundations of Health Humanities**
  - *End of July to end of October*
  - Foundations of Health Humanities is focused on introducing habits of mind, core knowledge, and skills that students will use throughout all four years of medical school. Primary goals will be to address how cultural contexts affect medicine and health care (and vice versa), and how to think and act critically, ethically

and with cultural humility in a pluralistic society. The course also focuses on issues of pressing social interest, including structural inequities like racism in medicine, justice and unconscious bias.

- **Foundations of Health Systems Science**
  - *Mid-July through December*
  - Foundations of Health Systems Science is the first course in the Health Systems Science longitudinal curriculum, which is focused on introducing the foundations of health systems science, including health care structure and process, health care financing, interprofessional roles and teaming, and evidence-based medicine.

    Patient Experience Program

    A key component of the longitudinal health systems curriculum is the patient experience program (PEP). During the first year, students will a semester serving as guides to help patients navigate through the sometimes-complicated process of getting the care they need. The goals of PEP are for students to:

    i. build a therapeutic patient relationship;
    ii. take patient histories that include screening and identifying social determinants of health;
    iii. work with the healthcare team to mitigate the social determinants of health, and;
    iv. understand interprofessional roles and communicate with interprofessional teams.
- **Foundations of Patient-Centered Care**
  - *Mid-July through mid-June, with breaks*
  - Foundations of Patient-Centered Care (FPCC) is a longitudinal course that spans Phase 1 of medical school training at Penn State College of Medicine. It is administered within a student's respective Society and integrated with other courses. In FPCC, students learn communication, professionalism, history-taking, physical examination, oral presentations, written documentation and clinical reasoning. The primary goal of FPCC is to prepare students to skillfully communicate, interview, examine and assess patients during the third and fourth years of medical school (and throughout their careers). Coursework, facilitated by Society adviser coaches, includes small group and standardized patient sessions held in the College of Medicine classrooms, as well as applied clinical skills sessions held in inpatient or outpatient settings. This combination of classroom and clinical settings provides students the opportunity to apply learned skills to actual patient encounters.
- **Host Defense/Host Response**
  - *Mid-September to early November*
  - The Host Defense/Host Response (HDHR) course addresses how the body maintains wellness and responds to threats. The primary learning goals focus on concepts in microbiology and infectious disease, immunology and oncology. This eight-week integrated course spans September to November of the Phase I first year. Problem-based learning (PBL) serves as the course's backbone, complemented by large-group interactive sessions, patient encounters and clinical reasoning sessions. There are also opportunities to integrate Health Systems Science, Health Humanities and frontiers of inquiry to add perspective and depth to the learning experience.
- **Observation and Interpretation**
  - *November to mid-December*
  - Observation and Interpretation emphasizes the power and importance of observation and interpretation in the practice of medicine. Using works of fine art — painting, music, writing, photography, dance, drama — students will be challenged to refine their observational and analytical skills and to communicate their impressions and findings to others, a process similar to differential diagnosis. Experiencing the arts leads to empathy for the human condition and for individuals.
- **Cardiovascular Medicine and Respiratory Medicine**
  - *Mid-November through mid-February, with breaks*
  - **Cardiovascular Medicine** Course provides exposure to basic concepts in histology/pathology, biochemistry, physiology, pharmacology, cardiovascular and thoracic anatomy, and clinical medicine related to cardiovascular medicine.
  - **Respiratory Medicine:** Introduction to normal and abnormal structure and processes of the respiratory system, principles of therapeutics and factors affecting disease treatment and prevention.
- **Health Systems Science in Context**
  - *Mid-January through May*
  - Health Systems Science in Context will build on the foundations of health systems science by focusing on the health systems science components of population health, health information technology, economics and value-based care, and healthcare policy.
- **Humanities in Context**
  - *Mid-January to mid-June, with breaks*
    Humanities in Context seeks to develop students' humanistic sensitivity, which includes ethical sensitivity, narrative disposition, critical consciousness and navigating complexity and uncertainty. The course will be aligned with the PBL/organ system courses.
- **Renal Medicine**
  - *Mid-February to mid-March*
    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.
- **Form and Function and Anatomy**
  - *Mid-March through early May*
  - This course has four major and overlapping components: anatomy, rheumatology, orthopedics and 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.

- **Gastrointestinal Pathophysiology and Nutrition and Anatomy**
  - *Early May through mid-June*
  - 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.

- **Objective Structured Clinical Examination (OSCE)**
  - *May*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.

- **Medical Student Research**
  - *Years 1 and 2*
  - Throughout Years 1 and 2, students have the opportunity to do research for the Medical Student Research project.

- **Acceleration Clerkships/Electives**
  - *January through August*
  - This is the time when students will be accelerating their education to allow them to finish in three years.

- **Additional Pathway Courses**
  - *January Year 1 through December Year 2*
  - Additional pathway courses could include a Career Confirmation Elective, Longitudinal Elective, Longitudinal Medicine Clerkship, the Medical Home Longitudinal Course, and/or the Longitudinal Neuroscience Clerkship, depending upon which pathway a student is enrolled in.

Year 2

- **Medical Student Research**
  - *Years 1 and 2*
  - Throughout Years 1 and 2, students have the opportunity to do research for the Medical Student Research project.

- **Science of Health Systems**
  - *August through December, with breaks*
  - Science of Health Systems is the third course in the longitudinal health systems science curriculum. In this year 2 course, the curriculum expands its focus on the health systems science components of quality improvement and patient safety and introduces methods of design thinking and the application of Six Sigma methodology to improve population health and patient safety. This course also focuses on leadership and preparation for clerkships including individual focus systems in various clinical environments as well as providing instruction on patient-centered care for patients with disabilities.

- **Foundations of Patient-Centered Care**
  - *August through December, with breaks*
  - This course, which spans Phases I and II 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.

- **Endocrinology/Reproductive Medicine and Anatomy**
  - *August through September*
  - 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.

- **Communication**
  - *August through December, with breaks*
  - Communication focuses on exploring assumptions and biases that impact communication and communicating in dyads, teams, and larger systems.

- **Neural and Behavioral Science and Anatomy**
  - *Early October to December, with breaks*
  - 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 about 14 patients who have various neurological disorders.

- **Clerkships**
  - *Beginning at end of February*
  - Required core clinical clerkships begin toward the end of Year 2. Clerkships are taught in two blocks. See clerkship details here (https://students.med.psu.edu/md-students/clerkships/).
    - Block 1 clerkships are March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.

- **Humanities Across Clerkships**
  - *Twice monthly during clerkships, March of Year 2 through mid-March of Year 3*
  - Phase II Clerkships can present emotional, physical and psychosocial challenges for medical students when rotating in the clinical environment for the first time. Humanities Across Clerkships (HAC) is a longitudinal course for medical students

engaged in Phase II clerkships to reflect upon issues encountered in the clinical learning environment related to Humanities and career development. Medical students will work together to formulate solutions that will ultimately promote professional identity formation and advance career development while serving as a venue to discuss stressors and challenges. The sessions will be run in a virtual format or in-person and will be facilitated by a trained faculty member in a safe, nurturing and cultivating environment. By the end of the course, medical students will be able to process the challenges of and changes to professional identity while interacting with the clinical learning environment; cultivate individualized skills and tools to advance career development and to deliver patient-centered care; and utilize and solicit near-peer learning and mentorship with compassionate and respectful communication skills.

- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Health systems is embedded in the clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *December*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.
- **USMLE Study**
  - Upon completion of Phase I, students are given a dedicated study period for USMLE I.
- **Acceleration Clerkships/Electives/Acting Internships**
  - *July through end of Year 2*
  - This is the time when students will be accelerating their education to allow them to finish in three years.

Year 3

- **Clerkships**
  - *End of February Year 2 through mid-March of Year 3*
  - Required core clinical clerkships begin toward the end of Year 2 and continue in Year 3. Clerkships are taught in two blocks. See clerkship details here (https://students.med.psu.edu/md-students/clerkships/).
    - Block 1 clerkships are March of Year 2 through August of Year 3.
    - Block 2 clerkships are September through mid-March of Year 3.
- **Humanities Across Clerkships**
  - *Twice monthly during clerkships, March of Year 2 through mid-March of Year 3*
  - Phase II Clerkships can present emotional, physical and psychosocial challenges for medical students when rotating in the clinical environment for the first time. Humanities Across Clerkships (HAC) is a longitudinal course for medical students engaged in Phase II clerkships to reflect upon issues encountered in the clinical learning environment related to Humanities and career development. Medical students will work together to formulate solutions that will ultimately promote professional identity formation and advance career development while serving as a venue to discuss stressors and challenges. The sessions will be run in a virtual format or in-person and will be facilitated by a trained faculty member in a safe, nurturing and cultivating environment. By the end of the course, medical students will be able to process the challenges of and changes to professional identity while interacting with the clinical learning environment; cultivate individualized skills and tools to advance career development and to deliver patient-centered care; and utilize and solicit near-peer learning and mentorship with compassionate and respectful communication skills.
- **Health Systems in Clerkships**
  - *Throughout all clerkships*
  - Health systems is embedded in clerkships.
- **Objective Structured Clinical Examination (OSCE)**
  - *Mid-March*
  - This exam allows students to practice and demonstrate clinical skills in a standardized medical scenario. Students have the opportunity to demonstrate competency in communication, history taking, physical examination, clinical reasoning, medical knowledge, and integration of these skills. It is meant to be a fair and accurate way to assess competence, as well as identify areas that need more work and practice.
- **Electives and Acting Internships**
  - *End of February Year 2 through end of April Year 3*
  - This is the time when students will be accelerating their education to allow them to finish in three years.
- **USMLE Study**
  - *January of Year 3*
  - Upon completion of Phase II clerkships, students are given a four-week dedicated study period for USMLE II CK.
- **Phase III: Residency Prep**
  - *Starting summer between Year 1 and 2*
  - Students enter Phase III: Residency Prep following USMLE Board Prep. This portion of the phase includes Systems-Conscious and Humanistic Medicine. This time provides students with opportunities to refine knowledge and skills as they prepare for entry into residency. This includes a variety of electives, two acting internships and a Humanities selective. The phase is completed by the capstone course, Transition to Internship, followed by graduation.
- **Systems-Conscious and Humanistic Medicine**
  - *Two weeks at the end of March*
  - Phase III begins with a two-week course in Systems-Conscious and Humanistic Medicine. This course revisits key health systems science and humanities concepts in the context of clerkships, while also preparing students for the UME to GME transition. Students will practice advanced clinical skills that require excellence in humanities and systems domains, such as how to perform quality improvement projects, effectively transition care of a patient to a night team or separate team entirely, place orders and call consults, organize a team in urgent care situations, and how to engage in an informed consent dialogue. In addition, the course includes key professional development topics such as instruction on building a personal statement for residency applications, the process of selecting

residency programs to which to apply and approaches to residency interview season.

- **Transition to Internship**
  - *Beginning of May*
  - The Transition to Internship course occurs at the end of each student's medical school career and builds on these concepts in preparation for residency training. Transition to Internship is the final requirement for each graduating medical school class, taking place just prior to medical school graduation. Its structure includes both large group workshops (involving the entire fourth-year class) and a number of small group "selective" sessions. Transition to Internship was designed with goals of providing review and practice of key clinical skills and concepts, as well as introduction of new information regarding communication and collaboration with other health professionals, teaching and evaluation strategies for interns in their educator roles and practice in effective patient handoffs. The course also includes time for reflection on professional responsibilities, personal stressors and individual support systems.

- **Graduation**
  - *Mid-May*

Competencies and Subcompetencies for Graduation

1. Patient Care: Provide patient-centered care that is compassionate, appropriate and effective for the promotion of health and treatment of health problems.
   - **PC 1.1** Gather a history and perform a physical exam (EPA 1)
   - **PC 1.2** Prioritize a differential diagnosis following a clinical encounter (EPA 2)
   - **PC 1.3** Recommend and interpret common diagnostic and screening tests (EPA 3)
   - **PC 1.4** Enter and discuss orders and prescriptions (EPA 4)
   - **PC 1.5** Document a clinical encounter in the patient record (EPA 5)
   - **PC 1.6** Provide an oral presentation of a clinical encounter (EPA 6)
   - **PC 1.7** Perform general procedures of a physician (EPA 12)
   - **PC 1.8** Recognize a patient requiring urgent or emergent care and initiate evaluation and management (EPA 10)
   - **PC 1.9** Give or receive a patient handover to transition care responsibility (EPA 8)
   - **PC 1.10** Describe the informed consent process (EPA 11)
   - **PC 1.11** Demonstrate higher-order clinical reasoning
2. Knowledge for Practice: Demonstrate knowledge of and critical thinking about established and evolving biomedical, clinical and health systems sciences, as well as health humanities, and apply this knowledge to patient care.
   - **KP 2.1.** Apply biomedical, clinical, health systems sciences and health humanities to clinical decision-making in an integrated manner
   - **KP 2.2.** Contribute to research
3. Practice-Based Learning and Improvement: Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate evidence and emerging research and to improve patient care through a practice of being reflective and engaging in lifelong learning.
   - **PBLI 3.1** Engage in continuous self-assessment and identify and perform appropriate learning activities
   - **PBLI 3.2** Form clinical questions and retrieve evidence to advance patient care (EPA 7)
   - **PBLI 3.3** Apply systems and critical thinking to interrogate one's own perspectives, biases and reasoning
4. Interpersonal and Communication Skills: Demonstrate verbal and non-verbal communication skills that show respect for and result in effective exchange of information and collaboration with patients, their families and health professionals.
   - **ICS 4.1** Communicate effectively with patients and families (EPA 11)
   - **ICS 4.2/SBP 6.1** Collaborate as a member of a team, including members of one's profession or interprofessional teams (EPA 9)
   - **ICS 4.3/PC 1.5** Document a clinical encounter in the patient record (EPA 5)
   - **ICS 4.4/PC 1.6** Provide an oral presentation of a clinical encounter (EPA 6)
5. Professional Behaviors: Demonstrate professional behavior with patients and families, teams, health systems and society.
   - **PB 5.1/HH 7.2** Act with honesty, integrity, accountability, reliability and self-regulation, adhering to ethical norms and principles
   - **PB 5.2/HH 7.4** Identify factors contributing to resilience and respond to burnout
   - **PB 5.3/HH 7.5** Demonstrate cultural humility
   - **PB 5.4/HH 7.6** Develop and employ emotional intelligence
6. Systems-Based Practice: Demonstrate an awareness of and responsiveness to the larger context and system of health care and public health, as well as the ability to call effectively on other resources in the system to provide optimal health care
   - **SBP 6.1/ICS 4.3** Collaborate as a member of a team, including members of one's profession or interprofessional teams (EPA 9)
   - **SBP 6.2** Incorporate considerations of value-based care in decisions about patients and/or populations
   - **SBP 6.3** Identify system failures and contribute to a culture of safety and improvement (EPA 13)
   - **SBP 6.4/HH 7.1** Analyze social determinants of health and other sociocultural factors affecting the health outcomes of patients, populations and communities
7. Health Humanities: Approach patients as whole persons, demonstrating compassion, humility and respect.
   - **HH 7.1/SBP 6.4** Analyze social determinants of health and other sociocultural factors affecting the health outcomes of patients, populations and communities
   - **HH 7.2/PB 5.1** Act with honesty, integrity, accountability, reliability and self-regulation, adhering to ethical norms and principles for the practice of medicine
   - **HH 7.3** Employ humanities tools and concepts for wellness and clinical effectiveness
   - **HH 7.4/PB 5.2** Identify factors contributing to resilience and respond to burnout
   - **HH 7.5/PB 5.3** Demonstrate cultural humility
   - **HH 7.6/PB 5.4** Develop and employ emotional intelligence

Adapted from:

- Obeso V, Brown D, Aiyer M, Barron B, Bull J, Carter T, Emery M, Gillespie C, Hormann M, Hyderi A, Lupi C, Schwartz M, Uthman M, Vasilevskis EE, Yingling S, Phillipi C, eds.; for Core EPAs for Entering

Residency Pilot Program. Toolkits for the 13 Core Entrustable Professional Activities for Entering Residency. Washington, DC: Association of American Medical Colleges; 2017.

- Englander R, Cameron T, Ballard AJ, Dodge J, Bull J, Aschenbrener CA. Toward a common taxonomy of competency domains for the health professions and competencies for physicians. Acad Med. 2013; 88(8):1088-94.

Accreditation

The Penn State College of Medicine's MD Program is fully accredited by the Liaison Committee on Medical Education (LCME) (https://lcme.org), the national accreditation authority for medical education programs leading to the MD degree in the United States and Canada.

LCME accreditation is a peer-reviewed process of quality assurance that determines whether the medical education program meets established standards. To achieve and maintain accreditation, a program leading to the MD degree in the United States and Canada must meet the LCME accreditation standards. Accreditation status is reviewed by a team of site visitors every eight years. The next review date for the College of Medicine is the 2025-2026 academic year.

Professional Licensure/Certification

Many U.S. states and territories require professional licensure/certification to be employed. If you plan to pursue employment in a licensed profession after completing this program, please visit the Professional Licensure/Certification Disclosures by State (https://opair.psu.edu/plc/dashboard/) interactive map.

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