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 at the 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 on the Hershey campus, there are two parallel curricula within the overall medical education program. Our 3+ Curriculum is located on the central campus in Hershey, and our University Park Curriculum is located in University Park, PA.

Our faculty is focused on creating humanistic physicians who are adaptive, critical-thinking, collaborative, and scholarly.

All students will be expected to meet our list of 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 Four-Pillar Model
Traditionally, medical education has focused on two pillars: medical science and clinical care. Today — as healthcare delivery rapidly shifts from physician-centric to patient-centric, from care of the individual to care of populations — a more comprehensive model is needed.

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

- Humanities
- Medical science
- Clinical science
- Systems science

As an MD student, you will learn health, healing, and humanity through:

- Early patient experiences
- Small-group learning teams
- Longitudinal care in a team-based medical home
- Peers helping each other
- Quality improvement
- Supportive environment

Admission Requirements
Penn State University College of Medicine is committed to developing tomorrow's diverse group of humanistic, systems-thinking physicians who will serve people in times of health and in times of illness. We seek strong applicants who come to medicine with a passion to serve and a commitment to excellence and life-long learning. In today’s rapidly changing healthcare environment, physicians must acquire a depth of understanding in the life sciences, humanities, clinical sciences and health system sciences. We seek students who bring a full, rigorous and holistic background of study and experiences to medical school and who are poised for the depth and breadth of learning demanded for tomorrow’s physician scholars and leaders.

We accept students in good standing who 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 chooses. The Medical College Admission Test (MCAT) is required and used along with other data to predict success in our educational program

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 preparation of our applicants, 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.

In addition to the above Science and Thinking & Reasoning competencies, Penn State College of Medicine expects applicants to demonstrate achievement of Interpersonal and Intrapersonal competencies. The following competencies are derived from the interpersonal and intrapersonal descriptions within the AAMC Core Competencies for Entering Medical Students (https://students-applying.amcas.org/applying-medical-school/article/core-competencies).

- **Interpersonal**: desire to help others; aware that social and behavioral cues affect interactions and behaviors; interacts effectively with people from diverse backgrounds; works collaboratively in teams; listens effectively and conveys information clearly.
- **Intrapersonal**: behaves in an honest and ethical manner; fulfills obligations in a timely and satisfactory manner; tolerates and adapts to stressful or changing environments; sets for continuous improvement; reflects on actions and solicits feedback.

**Coursework and Experience**

Though the most common methods of becoming competent in the Science, Thinking & Reasoning, Interpersonal and Intrapersonal competencies 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 courses for competencies only if they appear as earned credit on the applicant's college transcript. However, many of the most competitive applicants have fulfilled advanced course work in those same areas during their baccalaureate years.

**How to Apply**

We encourage students from diverse backgrounds who have strong potential for leadership and service in broad areas of patient care, research, medical education, administration, and service to apply to our program.

The education of a physician comprises a preparatory phase in college, a rigorous course of professional education leading to the MD degree, postgraduate or residency training, and lifelong continuing education after the conclusion of formal training.

The award of the MD degree signifies the individual has acquired a broad base of knowledge and skills requisite for the practice of medicine. The medical school educational process prepares an individual to be a physician — not a surgeon, psychiatrist, or any other specialist.

We require an online application to be submitted through AMCAS (https://www.aamc.org/students/applying/amcas) and a secondary application for the College of Medicine. Applicants judged to be most qualified are invited for an interview mid-September through March. See a detailed application timeline with deadlines (http://med.psu.edu/md/apply/deadlines).

**Application Process**

When applying to the MD Program, please adhere to the following procedure and guidelines:

- Complete and submit an online application (https://www.aamc.org/students/applying/amcas) to the American Medical College Application Service (AMCAS), indicating Penn State College of Medicine as one of your medical schools of choice. For more information, call the Association of American Medical Colleges (AAMC) at 202-828-0600.
- Upon receipt of your initiated AMCAS application, beginning in July, Penn State College of Medicine will notify you via email to complete and submit our web-based Secondary Application.
- Provide AMCAS with official transcripts, service fees, and letters of recommendation. AMCAS will verify application information and send it electronically to Penn State College of Medicine. We must receive your fully verified and processed AMCAS application by November 15.
- Applicants seeking an application fee waiver are reviewed on an individual basis only after an AMCAS fee waiver has been granted and appropriate documentation submitted.
- Letters of recommendation are required from each institution that has granted you a degree and any institution you are attending or plan to receive a degree. A composite recommendation from a pre-professional committee is strongly recommended. If there is no such committee, letters should be solicited from individual faculty members as outlined in the secondary application instructions. If there is a pre-professional committee and a recommendation will not be forthcoming, you should explain why in a separate letter to the admissions committee. Applicants who have been enrolled in a graduate program are required to provide an additional letter of support from their graduate program. Please note: The College of Medicine is only accepting letters through the AMCAS letter system (http://www.aamc.org/students/amcas/faq/amcasletters.htm). You must send, or have sent, your letters directly to AMCAS. Please reference the website above or call AMCAS at 202-828-0600 for further clarification.
- It is the policy of the College of Medicine not to grant requests for late application.
- It is the applicant’s responsibility to see that the application is complete. A completed application is one in which all necessary materials have been submitted with all questions on each form completely and answered, the $80 application fee has been paid, and the required letters of recommendation have been received and processed by AMCAS.

**Correspondence Policy**

The "preferred" addresses (mail and email) on applicants' AMCAS applications are the addresses to which any printed correspondence from Penn State College of Medicine will be sent. If your preferred addresses (mail or email) change after you have submitted your application to AMCAS, you will need to enter the new addresses on your AMCAS application. Applicants who have been enrolled in a graduate program are required to provide an additional letter of support from their graduate program. Please note: The College of Medicine is only accepting letters through the AMCAS letter system (http://www.aamc.org/students/amcas/faq/amcasletters.htm). You must send, or have sent, your letters directly to AMCAS. Please reference the website above or call AMCAS at 202-828-0600 for further clarification.

Email is a primary and official mode of communication between the College of Medicine and its applicants. Some correspondence from the College of Medicine is sent only by email and will not be sent to you unless you provide an email address. Due to the importance of the admissions process, we recommend that applicants establish a unique email address for the process and check that email address regularly throughout the process. Be sure to keep both your email address and your preferred address up-to-date at all times.

It is the sole responsibility of the applicant to make sure that the email address indicated as "preferred" on the AMCAS application is functional. The College of Medicine is not responsible for email that unable be delivered or for emails deleted as bulk, spam, or the like.
Interview Process
The interview is an essential component of the selection process. It provides vital information about the applicant that is impossible to obtain by any other means.

Faculty interviews with critical evaluations are the only method within the admissions process for the assessment of the important nonacademic attributes of applicants. The selection committee places great importance on these evaluations in making decisions on admission.

Dates: Monday, Wednesday and Friday, mid-September through March.

Interview day: One half of the applicants will interview in the morning and the other half in the afternoon. Both groups will tour the facility and lunch together. Two or three faculty members will interview each applicant.

Interview Agenda
Group 1
8:30 a.m.: Arrival and registration
8:45 a.m.: Welcome and overview of day’s activities
9 to 11 a.m.: Faculty interviews

Group 2
10:30 a.m.: Arrival and registration
10:45 a.m.: Welcome and overview of day’s activities

Groups 1 and 2
11:15 a.m.: College of Medicine presentation and Q&A
Noon: Lunch with medical students
1 p.m.: Tour of College of Medicine and Medical Center Complex

Group 1
2 p.m.: Group checks out and is finished for the day

Group 2
2 to 4 p.m.: Faculty interviews
4:15 p.m.: Group checks out and is finished for the day

Official action following the interview is made by the medical student selection committee. The action taken by the committee may be acceptance, hold, or rejection. Candidates will be notified of a decision within six to eight weeks of the interview.

International Applicants
International applicants must complete all academic requirements for admissions in an accredited United States or Canadian college or university.

They must also follow the same application procedures (http://med.psu.edu/md/apply/process), and adhere to the same timeline and deadlines (http://med.psu.edu/md/apply/deadlines) as domestic applicants.

Obtaining Visa Eligibility Documentation
If you’re accepted to the College of Medicine, you need to officially accept your offer of admission. After you have accepted your offer of admission, the Directorate of International Student and Scholar Advising (DISSA) will contact you by email to provide you with a link and a set of instructions for how to access their online system (iStart).

There, you will be directed to work through a pre-arrival checklist that helps guide newly admitted international students through the process of requesting visa eligibility documentation (I-20/DS-2019) and/or gaining clearance to register for classes, in addition to other crucial steps toward attending the Penn State College of Medicine.

Please note: All newly admitted international students need to access DISSA’s iStart system and complete the Request I-20/DS-2019 OR Provide Current Visa Documentation step. It can take DISSA two to three weeks to process requests for an I-20/DS-2019. If you are outside the U.S. and must apply for a student visa, you should submit your request for an I-20/DS-2019 no later than May 15 of your year of matriculation, to allow time for you to obtain a visa and make travel arrangements. Please be guided accordingly in submitting documents to DISSA.

Accepted international applicants are sent a checklist detailing the above requirements, as well clearly indicating the deadlines for submission of these documents.

If the checklist items are not fulfilled by the indicated deadlines, candidates will be withdrawn from the entering class without the possibility of reinstatement.

Financing Your Medical Education
Accepted international applicants must verify the ability to finance their medical education. Foreign nationals are not eligible for financial support from the federal government or Penn State University. Learn about the financial aid verification procedure for Penn State University and the College of Medicine (https://global.psu.edu/category/you-arrive).

Questions?
If you have questions about your application or about admissions, please contact the Penn State College of Medicine Office of Student Affairs at 717-531-8755 or StudentAdmissions@pennstatehealth.psu.edu.

If you have questions about your proof of finances and the verification procedure, please contact Student Aid at 717-531-7052 or StudentAid@pennstatehealth.psu.edu.

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, four-phase curriculum framework and the same 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.

Four-Phase Curriculum Framework
The central curriculum and the two parallel curricula are designed around a four-phase framework:

• Phase I - Foundations: Students in Penn State College of Medicine, whether in the Hershey central curriculum (HC), the 3+ parallel track at Hershey (HC3+) or the University Park curriculum parallel
track (UPC) 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 HC and HC3+ lectures supplement the instructional formats. At UPC, which is a “no lecture” track, the more extensive small group problem-based learning sessions, which are referred to as Inquiry groups (IQ), and science seminars serve as the instructional formats that subsume the content expectations typically delivered in lectures. Students in HC/HC3+ take the foundational courses sequentially prior to clerkships. Students in UPC take some foundational courses before and some after clerkships.

- **Phase II - Clinical Core:** Student all complete the same eight core clerkships, though the instructional format may be blocks or longitudinal. All students must take USMLE Step 1 before progressing to Phases III/IV.
- **Phase III/IV - Discovery & Residency Prep:** Two required courses – Translating Health Systems Science to the Clinical Setting and Profession of Medicine III (Transition to Residency) 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.

The phases intersect and transitions are flexible, depending on the curriculum option.

### Core Competencies

The 10 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. Professionalism
6. Systems-based practice
7. Inter-professional collaboration
8. Personal and professional development
9. Medical humanities
10. Critical thinking

The central Hershey Curriculum and the two parallel curricula share, in addition, the following:

- Governed by the same curriculum committee (CUMED)
- Participate in the same course and clerkship directors’ subcommittees of CUMED
- Report to the same Vice Dean for Educational Affairs
- Grades reported through a single individual
- Use the same curriculum management system
- Use the same student assessment system
- Use the same standardized approach to formative feedback
- Use the same mid-rotation feedback forms
- Use the same school-wide policies on mistreatment and respect in the learning environment
- Use the same criteria for grades in courses and clerkships
- Have the same clerkship requirements, NBME shelf exams and methods of grade calculations
- Use the same evaluation system for end of course and clerkship student feedback
- Require the Medical Student Research Project (MSR) for all students

### Hershey Curriculum

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

The four-phase curriculum is learner-centered and has been developed to prepare you for a successful career in a more integrated healthcare system.

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.

Through our curriculum, you will gain:

- A well-grounded connection between medical science and patient care
- A commitment to evidenced-based medicine
- An appreciation of the patient experience of illness
- A commitment to humanistic patient care
- Advocacy for access to all and reduction in healthcare inequities

### Patient Navigator Program

Penn State College of Medicine is among 11 of the nation’s medical schools — including the University of Michigan, Vanderbilt, and NYU — to be awarded a $1 million grant from the American Medical Association to transform the way medical students are prepared for today’s health system. One of our initiatives is the patient navigator program, an opportunity for students to guide patients through the complicated process of getting the care they need.

MORE INFORMATION ABOUT THE PATIENT NAVIGATOR PROGRAM (http://med.psu.edu/md/hershey)

### 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 country 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 4:** Month-long humanities selective (required). Recently offered courses include:
  - Human Virtue
  - Jazz and the Art of Medicine
  - Graphic Storytelling (http://sites.psu.edu/graphicsnarratives)
  - Medical Narratives

Additional humanities activities include the Farmers Market in Hershey, the arts and literature journal Wild Onions (http://sites.psu.edu/wildonions), and the Kienle Center Players (http://sites.psu.edu/kienlecenter), a drama group.
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.

• **Scholarship/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**

• **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**
  • **Middle of August through January, 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.

• **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.

• **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.
• **Phase III: Discovery**
  • Phase III continues with a discovery phase that allows for board preparation and career exploration as well as acting internships. Students move onto Phase IV whenever they make their decision as to what residency to seek.

• **Phase IV: 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 five 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. Students also prepare for and take the USMLE Step 2 CK and CS in the earlier part of Year 4.

• **USMLE Step 1**
  • End of Year 3
  • Students prepare for and take USMLE Step 1 before the end of Year 3.

**Year 4**

• **Phase IV: Residency Prep**
  • **July to May, with breaks**
  • 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. Students also prepare for and take the USMLE Step 2 CK and CS in the earlier part of Year 4.

• **Profession of Medicine III**
  • **Beginning of May**
  • Profession of Medicine III course, or Transition to Internship, occurs at the end of each student’s medical school career and builds on these concepts in preparation for residency training. POM III 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. POM III 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**
  • **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's University Park curriculum wants to move medical education into the 21st century.

Traditional medical education requires students to spend two years immersed in basic sciences before two years of clinical study. Our new modern curriculum, which is currently under development, aims to integrate the two areas and prepare students for the ongoing practice of evidence-based medicine in a rapidly changing healthcare environment.

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. Building on our experience, and benefiting from the resources that our regional campus in University Park offers, we invite you to learn in an environment that fosters interprofessional teamwork, curiosity, and a commitment to the calling of medicine.

**Curriculum Highlights**

**Patient-based Experiences**

Immersed with patients and health care systems from the first days of medical school, integrated with active small group discussions, will drive your professional development as you explore the basic and clinical sciences, health systems science, and the health humanities.

**Individualized Mentoring**

Our small class size allows for one-on-one mentoring from our core faculty as well as longitudinal learning relationships with a diverse group of health professionals in our clinical practice and community service sites. This entire program of individualized “coaching” will ensure that you are able to take full advantage your experiential learning opportunities.

**Experiential Learning**

We all learn best when we can connect the skills and knowledge to our own experience. The UP curriculum is designed for you to anchor and motivate your learning in the patients and health care communities that you encounter, supported by colleagues, faculty, and ready access to the rich resources of the College of Medicine and Penn State University.

**Community Engagement**

You will collaborate with patients, community representatives, and systems sites to learn and develop community-based solutions that improve healthcare outcomes.

**A Culture of Respect and Humanistic Care**

Penn State College of Medicine was the first medical school in the nation to have a Department of Humanities and we remain committed to fostering the development of humanistic, curious health care professionals. The UP Curriculum has been specifically designed to support and enhance the role of the Health Humanities through patient experiences, integrated small group reflection, and faculty mentorship.

**Why University Park?**

The UP Curriculum track has been developed to build on the strong tradition of the Penn State College of Medicine, recognizing the unique opportunities provided by the combination of a community-based healthcare system, a diverse, research-intensive university, and a medical school faculty dedicated to creating innovative and meaningful educational programs.

The full integration of the basic and clinical sciences with health systems science and health humanities, along with community engagement
and active, experiential learning strategies, form the centerpiece of the educational mission of the University Park Curriculum.

**Curriculum**

**Year 1**

- **Profession of Medicine I**
  - **Last half 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.

- **Patients and Sciences 1**
  - **Middle of July to middle of December, with break**
  - The clinical experiences in Patients and Sciences 1 are designed to integrate students into practice sites in meaningful, patient-centered roles as patient navigators. Instead of paper cases in PBL, students bring real patient summaries to inquiry group (IQ) sessions where they co-create learning objectives around the four core Penn State College of Medicine pillars with faculty facilitators. Students then research the learning objectives for collaborative discussion, practical application, and additional question generation through the rest of the week and beyond. Students learn history, physical exam, and presentation skills in PS1 and PS2 and practice in their clinical immersion sites. In addition to the IQ groups and clinical immersions, students participate in collaborative science tutorials for deeper exploration of biomedical science concepts. Patients and Sciences 1 includes Biomedical, Health Humanities, Health Systems and Clinical Sciences sections.

- **Patient Navigation**
  - **Early August to mid-December**
  - Patient Navigation is an integral part of Patients and Sciences 1 in the University Park track.

- **Patients and Sciences 2**
  - **January to June**
  - The experiences in Patients and Sciences 2 are designed to build on what is learned in Patients and Sciences 1.

- **Primary Care Immersion**
  - **January to June**
  - Primary Care Immersion is an integral part of Patients and Sciences 2 in the University Park track.

- **Primary Care Preceptorship**
  - **Middle of 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 their 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**
  - **End of May/Early June**
  - This is a week of reflection and assessment.

- **Portfolio**
  - **Second week in June**
  - This is a week for portfolio development.

- **Scholarship/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**

- **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.

- **Profession of Medicine II**
  - **Beginning of Year 2**
  - 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.

- **Clerkships**
  - **Years 2 and 3**
  - Required core clinical clerkships in Internal Medicine, Family and Community Medicine, Psychiatry, Underserved Medicine and Domestic Health, Neurology, Obstetrics and Gynecology, Pediatrics and Surgery begin in Year 2 and continue in Year 3. Clerkships are taught in three blocks.

- **Clinically Integrated Medical Sciences**
  - **Year 2, 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
Year 4

- Humanities
  - Year 4, with breaks
  - Humanities coursework continues through Year 2.

- Health Systems in Clerkships
  - Year 4, with breaks
  - Health Systems in Clerkships accompanies the Year 2 Clerkships.

- Assessment Weeks
  - There are three reflection and assessment weeks in Year 2.

Year 3

- Patients and Sciences 4
  - The experiences in Patients and Sciences 4 are designed to build on what is learned in Patients and Sciences 1 and 2.

- Assessment Week
  - This is a reflection and assessment week.

- USMLE Study
  - USMLE study begins midway through the third year.

- Translating Health Systems
  - Phase III includes 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.

- Phase III: Discovery
  - Phase III includes a discovery phase which allows for board preparation and career exploration as well as acting internships.

- Phase IV: 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.

- USMLE Step 1
  - End of Year 3
  - Students prepare for and take USMLE Step 1 before the end of Year 3.

Year 4

- Phase IV: Residency Prep
  - Year 4, with breaks
  - Phase IV includes residency preparation, interviews and two total acting internships in different clinical fields or one acting internship and one critical care rotation. Students also prepare for and take the USMLE Step 2 CK and CS in the earlier part of Year 4.

- Profession of Medicine III
  - Spring
  - Profession of Medicine III course, or Transition to Internship, occurs at the end of each student’s medical school career and builds on these concepts in preparation for residency training. POM III 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. POM III 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
  - June

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**
  - **Middle of August through January, 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.

- **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 insufficiently 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, neuropathology, 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.
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. Perform a problem-focused and complete history and physical examination
   - PC 1.2. Use clinical information to formulate differential diagnosis; identify and interpret clinical and diagnostic test information to formulate a prioritized differential diagnosis and management plan

2. Knowledge for Practice: Demonstrate knowledge of established and evolving biomedical, clinical, and healthcare delivery sciences, as well as the application of this knowledge to patient care
   - KP 2.1. Demonstrate knowledge of the biomedical and clinical sciences and apply this knowledge to diagnostic and therapeutic decision-making and clinical problem-solving
   - KP 2.2. Contribute to the creation, dissemination, application, and translation of knowledge and practices

3. Practice-Based Learning and Improvement: Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care
   - PBLI3.1/PPD 8.1. Incorporate reflection and self-assessment in the development of one's own professional identity, systematically analyze one's own performance to identify strengths and challenges, set individual learning and improvement goals, and engage in appropriate learning activities to meet those goals.
   - PBLI 3.2. Identify one's own knowledge gaps as they emerge in patient care activities, formulate an appropriate question to address the gap, utilize clinical informatics to locate, appraise, and assimilate evidence to inform patient care

4. Interpersonal and Communication Skills: Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals
   - ICS 4.1. Communicate effectively with patients, families, and other individuals across a broad range of backgrounds, beliefs, and identity
   - ICS 4.2. Demonstrate the ability to document and organize patient information both orally and in the medical record
   - ICS4.3/IPC7.3. Communicate effectively with others on an interprofessional team

5. Professionalism: Demonstrate a commitment to behaving in a professional manner and adhering to ethical principles
   - Prof 5.1. Act in the best interest of individual patients and patient populations
   - Prof 5.2/MH9.3. Act with honesty, integrity, accountability, and reliability, adhering to ethical norms and principles for the practice of medicine

6. Systems-Based Practice: Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care
   - SBP 6.1. Demonstrate knowledge of the basic principles of healthcare delivery, organization and finance
   - SBP 6.2. Incorporate considerations of value-based care in decisions about patients and/or populations
   - SBP 6.3. Identify and analyze adverse events, medical errors, and systems issues and propose interventions that will improve the value of healthcare
   - SBP 6.4. Analyze factors that affect the health outcomes of patients, populations, and communities

7. Interprofessional Collaboration: Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care
   - IPC 7.1. Apply principles of team dynamics in interactions with other health professionals, patients, and families, in the context of shared knowledge, shared goals, and mutual respect
   - IPC 7.2. Use the knowledge of one's own roles and responsibilities and those of other health professionals – to optimize health care
   - IPC 7.3/ICS4.3. Communicate effectively with others on an interprofessional team

8. Personal and Professional Development: Demonstrate the qualities required to sustain lifelong personal and professional growth
   - PPD 8.1/PBLI3.1. Incorporate reflection and self-assessment in the development of one's own professional identity, systematically analyze one's own performance to identify strengths and challenges, set individual learning and improvement goals, and engage in appropriate learning activities to meet those goals.
   - PPD 8.2. Manage the balance between personal and professional expectations
   - PPD 8.3. Articulate potential rewards and challenges of future phases of one's own career

9. Medical Humanities: Demonstrate respect for the diverse values, beliefs and practices one encounters in the field of healthcare, while embodying a commitment to becoming an ethical, reflective, humble, informed, and compassionate physician
   - MH 9.1. Demonstrate compassion, humility, and respect toward all persons regardless of their diverse identities, values, beliefs, and experiences.
   - MH 9.2. Demonstrate the application of humanities and/or the arts to illuminate the lived experience of illness and to enhance the care of the patient
   - MH 9.3/Prof 5.2. Act with honesty, integrity, accountability, and reliability, adhering to ethical norms and principles for the practice of medicine

10. Critical Thinking: Apply higher-order cognitive skills and deliberate thinking that leads to action that is context appropriate
    - CT 10.1. Demonstrate skepticism, curiosity, and a willingness to acknowledge uncertainty when confronted with new information or situations
    - CT 10.2. Demonstrate mindful interrogation of one's own thinking process and biases in making decisions


Tuition and Financial Aid
The Office of Student Aid at the College of Medicine is here to assist you. We can help you understand your options, apply for financial aid, and explore other avenues of assistance.
assistance and make well-informed choices about financing your education.

Contact Us
If you have questions about financial aid, please contact the Office of Student Aid at 717-531-7052 or StudentAid@pennstatehealth.psu.edu.

Applying for Financial Aid
Most students in the MD program rely on financial aid to help pay for their education and housing expenses. In 2016-17, 87.6% of our students received some form of financial aid.

Sources of aid include:

- Loans: These include need-based university loans awarded by the Office of Student Aid and federal loans (Direct Unsubsidized and GradPlus).
- Scholarships: These include both merit- and need-based university scholarships awarded by the Office of Student Aid.

LEARN HOW TO APPLY FOR FINANCIAL AID (http://students.med.psu.edu/md-students/financial-aid)

Cost of Attendance
The annual Cost of Attendance is not finalized until the University Board of Trustees establishes tuition charges at their annual July meeting. This website provides cost of attendance information for the current academic year. This information will be updated annually after tuition charges are established each July.

The cost of attendance is based upon educational expenses and modest, but adequate living expenses for the student.

Tuition
Tuition in the MD program is the same for Pennsylvania and non-Pennsylvania residents.

Living expenses are approximately the same for on- and off-campus residents.

Tuition and fees are based on actual costs for the 2017-2018 academic year. Tuition fees are subject to change based on approval from the Penn State Board of Trustees.

USMLE costs were estimated at the time the costs were determined. Changes in curriculum can alter the academic year in which a student will incur these costs.

Disability insurance is required and the amount is based on the actual 2017-18 academic year.

Registered students are required to carry medical insurance. This can be purchased through the university for $3,622 for first-year students, or $3,418 for second- through fourth-year students for 2017-18. Students have the option to purchase medical insurance on their own as long as it meets university requirements.

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