# GATEWAY CURRICULUM ESSENTIALS

8/29/2025

- **Our declaration of the future**: We are advancing human health as a diverse and inclusive community inspiring learners to create the future in medicine, science, and society.
- **Goal**: We will produce physicians who are leaders in medicine. Leaders in clinical care, science, education, and advocacy.
- The primary **guiding principles** of the curriculum are:
  - **Competency-based & outcomes-oriented**: An outcomes-based approach to the design, implementation, and evaluation of education programs and to the assessment of learners across the continuum that uses competencies or observable abilities.
  - **Learning-centered**: An educational approach that focuses on the act of learning, the type of learning that is desired, and the strategies that will support the attainment of that learning; it requires an understanding of the nature of teaching and learning and the ability to design rich learning opportunities in which students are active learners and where the instructor is the facilitator and coach; learning-centered assessments are designed to help students learn (assessment for learning), not just to measure how much has been learned (assessment of learning).
  - **Integrated & coordinated**: An *integrated* curriculum connects different areas of study by cutting across subject matter lines, makes connections, and emphasizes unifying concepts in a manner that reflects actual clinical practice. A *coordinated* curriculum intentionally and transparently situates content horizontally and vertically at the right time, in the right amount with only planned redundancies/expansion and with no significant gaps.
  - **Sustainable**: A sustainable curriculum requires an appropriate cognitive workload for leaners, teachers, and staff; promotes ongoing relationships between learners and teachers; and is modular with synchronized schedules where possible.
- Our **values**:
  - Excellence
  - Learning
  - Care
  - Collaboration
  - Inquiry & innovation
  - Equity & Justice
- The curriculum consists of 3 phases over 4 calendar years.
  - Phase 1: Gateway to the Foundations
  - Phase 2: Gateway to Clinical Medicine
  - Phase 3: Gateway to Specialization
- **Phase 1 – Gateway to the Foundations** (17 months total, **66 weeks** of required content):
  - Phase 1 begins with a 1-week transition course (**Transition to Gateway**).
  - Then there are 7 **Foundational Science Modules** of various length (**47 weeks total**).
    - In this context, "foundational sciences" is specifically and purposefully intended to imply the traditional basic sciences (e.g., anatomy, biochemistry, physiology, etc.) AND, including but not limited to, clinical/communication skills, and the social, behavioral, and health system sciences.

- Each Foundational Module centers on the functions (primary physiological organization) and forms (secondary anatomical organization) of the human body in an **integrated & coordinated** fashion, including the basic and clinical sciences and the impact of the social, behavioral, and health systems sciences. The modules are:
  - **Health & Homeostasis**: Module 1 is organized around the concepts of health and homeostasis, the ability of the body to maintain stable internal conditions despite changes in the external environment. Students will explore mechanisms by which the human body preserves a balanced state and the tools available to physicians to evaluate and support a patient's health and wellness. The module applies these concepts across the age spectrum and applies basic and clinical science, health systems, and social-behavioral considerations through four patient care well-visit scenarios.
  - **Defense & Response to Injury**: Module 2 provides a robust introduction to disease, with an emphasis on immune, infectious, and neoplastic mechanisms. Individual units of the module examine mechanisms of cell injury and death, innate and acquired immunity, microbial pathogenesis, hemostasis, and neoplasia. The module ends with the application of these subjects in relation to skin disease.
  - **Breathing & Circulation**: Module 3 focuses on the functions of circulation (perfusion, vascular compliance, cardiac conduction and contraction) and respiration (air movement and gas exchange, including the role of erythrocytes).
  - **INs & OUTs**: Module 4 covers the functions of nutrition, digestion, waste removal, and ionic balance.
  - **Metabolism & Reproduction**: Module 5 explores in detail the functions of energy homeostasis, hormonal control/balance, and reproduction.
  - **Scaffolding & Movement**: The emphasis of Module 6 is the peripheral nervous system innervation of skeletal muscles, allowing movement of the body. Other structural components of the body, including tendons, bones, joints, and ligaments are also featured.
  - **Brain & Behavior**: Module 7 covers the functions of the central nervous system, including modulation of movement, somatosensation, consciousness, attention, sleep, speech/language, special senses, learning/memory, emotion, motivation, and reward.
- Each module has a similar overall large-scale structure to facilitate consistency and familiarity.
- Some important content areas are presented across multiple Phase 1 modules and also during Phases 2 and 3. These **18 curricular threads** have designated leaders and are clustered into three groups.
  - Basic sciences: Anatomy & Embryology/Development, Biochemistry, Genetics & Genomics, Histology & Pathology (also clinical sciences), Pharmacology, Physiology, and Microbiology & Infectious Diseases (also clinical sciences).
  - Clinical sciences: Clinical Skills & Diagnostic Reasoning, Histology & Pathology (also basic sciences), Laboratory Medicine, Microbiology & Infectious Diseases (also basic sciences), Radiology, and Women's & LGBTQIA+ Health.
  - Social, behavioral, & health systems sciences: Clinical Epidemiology & Evidence-Based Medicine, Ethics & Law, Health Equity & Justice, Health

Systems Science, Interprofessional Collaboration, Professional Identity Formation, and Public/Population Health.
        - Consistent visual indicators of thread content coverage occur across all 3 phases.
    - **Evidence-based active learning strategies and educational technology** are intentionally used whenever it substantively augments medical student engagement and learning. For example:
        - Team-based learning (TBL)
        - A local flipped classroom strategy called LACE (Learn, Apply, Consolidate, Expand)
        - Cased-based learning (CBL)
        - Laboratories
        - Simulations
  - There are three 3-week **Clinical Immersions** (**9 weeks total**).
    - Students will rotate through 3 clinical environments:
        - Inpatient
        - Outpatient (including urgent/emergent care)
        - Perioperative/Periprocedural/Procedural (including labor & delivery)
    - These experiences are meaningful, authentic, and consistent with the students' level of experience.
    - During these experiences, particular attention is given to clinical skills, professional identity formation, and the social, behavioral, and health systems sciences.
  - Another 4-week immersive experience during Phase 1 gives students the opportunity to explore their interests early in training (see **EXPLORE** below).
  - Phase 1 ends with a 1-week capstone module (**Transition to Clerkships**), to solidify and consolidate knowledge and skills and to further prepare students to perform successfully in the clinical clerkships, and a 4-week, credit-bearing NBME USMLE Step 1 study period.
  - Students take the NBME USMLE Step 1 Examination after completing Phase 1. Passing Step 1 is not specifically required to enter Phase 2.
  - Attendance during Phase 1 is required for all clinical activities, clinical skills sessions, coaching sessions, dissection labs, and all classroom activities where individual student learning may be impacted by the participation of others (e.g., TBL, LACE, CBL, case discussion). Attendance at required sessions is intermittently verified.
  - There are 7 weeks of unscheduled time during Phase 1.
- **Phase 2 – Gateway to Clinical Medicine** (12 months total, **49 weeks** of required content)
  - Phase 2 begins with a 1-week orientation period.
  - Six, 8-week **Clinical Clerkships**
    - Internal Medicine
    - Surgery
    - Pediatrics
    - Obstetrics & Gynecology
    - Neurology
    - Psychiatry
  - **Each clerkship begins with 1 week of specialty-specific foundational science**, consisting of purposeful reiteration and expansion of prior material (helical learning/integration) and new material.

- **Each clerkship ends with 1 week dedicated to Assessment, Reflection, Coaching, and Communities (ARCC)**. During ARCC week students complete NBME subject exams, objective structured clinical exams (OSCEs), and/or oral exams. Community activities including reflection on those activities, and coaching sessions also occur.
- There are 3 weeks of unscheduled time during Phase 2.
- **MSTP students**:
  - Enter the PhD phase of their training directly after the conclusion of Phase 1.
  - At the conclusion of PhD training, MSTP students will begin Phase 2 and complete all the clinical clerkships.

- **Phase 3 – Gateway to Specialization** (16 months total, **57 weeks** of required content)
  - All students' schedules are unique during Phase 3 and tailored to their particular interests and career aspirations.
  - Students take the NBME USMLE Step 2 Examination during Phase 3.
  - Up to 4 weeks of credit-bearing study/preparation time is available for USMLE Step 2.
  - **Students planning on entering the residency match are expected to schedule and complete USMLE Step 1 and Step 2 by September 1st of the fall prior to the year that they plan to graduate** so that scores are available for residency program review prior to interview release.
  - **All students are required to complete a 4-week Internal Medicine Advanced Clinical Rotation** (ACR, a.k.a. subinternship) sometime during Phase 3.
  - **All students are required to complete two additional 4-week ACRs** sometime during Phase 3, **at least one must occur prior to the last possible date for inclusion in the Medical Student Performance Evaluation** (MSPE).
  - **All students are required to complete two 4-week Keystone Integrated Science Courses** (KISCs) sometime during Phase 3. These courses provide deep explorations into the science of a broad array of topics (basic, clinical, social, behavioral, and health systems science), ideally are transdisciplinary, and take students from cell to society around an important or emerging area. Current KISCs include:
    - Diabetes Care from A to Z
    - Integrated Approach to Oncology
    - Infectious Diseases and Health Equity
    - Introduction to Addiction Medicine
    - Comprehensive Approach to Disability
    - Advancing End-of-Life Care
    - Science, Medicine, and the Societal Effects of Pain
    - Pediatric Neurocritical Care
    - Multidisciplinary Adult Neuro-Oncology
  - All students are required to complete a **4-week Gateway to Residency Course** (a.k.a. capstone) early in their graduation year.
  - The remaining 10 months are entirely **elective**.
  - There is no limit on the amount of elective time that can be dedicated to **research activities** (excepting MSTP students who have completed PhD training) and it is

anticipated that the majority of our students will do some form of research early in Phase 3.
    - Four weeks of university holiday time occur during Phase 3, and non-MSTP students may elect to take up to 8 additional weeks of unscheduled time.
    - **MSTP students**:
        - May not proceed to Phase 3 clinical electives (inclusive of ACRs) without completing the entirety of Phase 2.
        - Receive Phase 3 credit for:
            - Two 4-week KISC.
            - Sixteen weeks of research elective.
        - Are required to **complete 33 weeks of actual Phase 3 credit**, including 4 weeks Internal Medicine ACR, 8 weeks other ACRs, 4 weeks Gateway to Residency (a.k.a. capstone), and 16 weeks elective.
- **EXPLORE Curriculum**
    - An additional unique aspect of the Gateway Curriculum is EXPLORE, which provides students with longitudinal and immersive experiences in four specific academic career pathways: **Research**, **Education**, **Advocacy/Global Health**, and **Innovation**.
    - Building on the outstanding opportunities that already exist for our students, the EXPLORE curriculum provides enhanced structure and support for career development as an academic physician.
    - Students have the opportunity to participate in longitudinal programming throughout the 4-year curriculum. This will include exposure to physician role models and mentors, core training in the knowledge and skills necessary for the respective career pathway, and experiential learning.
    - A **4-week immersive experience during Phase 1** gives students the opportunity to explore their interests early in training. MSTP students have specifically designed activities within the research track of EXPLORE during Phase 1.
    - Phase 3 provides significant opportunities to explore career interests through electives, extended study, and yearlong and **dual degree programs**. Current programs include the MD/PhD (Medical Scientist Training Program), MSBMI (Master of Science in Biomedical Informatics), MSCI (Master of Science in Clinical Investigation), MPHS (Master of Population Health Sciences), MPH (Master of Public Health), MBA (Master of Business Administration), MS-BMI (Master of Science in Biomedical Informatics), and yearlong research programs.
- **In total, 172 weeks of credit are required for graduation.**
- **Program of Assessment**
    - The program of assessment for the Gateway Curriculum is competency-based, in accordance with the Liaison Committee on Medical Education (LCME). Competency-based assessment is distinct from a so-called Pass/Fail system.
    - The domains of competence mirror those of the Accreditation Council for Graduate Medical Education (ACGME) to facilitate the transition from undergraduate to graduate medical education and include
        - Foundational knowledge for practice
        - Patient care

        - Interpersonal and communication skills
        - Professionalism
        - Systems-based practice
        - Practice-based learning improvement
    - The **Medical Educational Program Objectives** (MEPOs) of the medical program are organized within these domains. Course-level learning objectives and assessment items map directly to the MEPOs.
    - Evidence of competence for each MEPO is collected across curricular elements in the phases. **Decisions of competence are made at the end of each phase and ultimately prior to graduation**.
    - Traditional grades are not given. Instead, students receive a determination of credit/no-credit for each course and Competent/Not-Yet-Competent for each MEPO with the potential for **Competent with Distinction in selected domains**.
    - Progress towards competence is carefully monitored and made transparent to students via a **dynamic learning dashboard**.
- In order to support intellectual wellbeing, professional identity formation, and life-long learning, students are assigned to **longitudinal coaching groups** at the time of matriculation. Cohorts of 7 – 9 students are coached by a clinician-educator faculty member across all phases of the MD curriculum.