

MD Degree Educational Program: Overview of Core Curriculum Components

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Welcome

The University of Alabama at Birmingham Marnix E. Heersink School of Medicine core undergraduate medical curriculum for the MD Degree: (1) integrates basic science with clinical knowledge, including real & simulated clinical applications; (2) encourages active, case-based learning and teamwork; and (3) trains students as future physicians involved in competent and compassionate patient care.

The UAB Heersink School of Medicine is a fully accredited by the Liaison Committee for Medical Education (LCME). The next LCME accreditation survey will be 2029-2030.

Academic Calendars

Academic, Clinical, and Exam Calendars

MD Degree Educational Program Objectives

The <u>MD Educational Program Objectives</u> are based upon ACGME Competencies:

- **Patient Care:** Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health;
- Knowledge for Practice: Demonstrate knowledge of the established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care;
- Practice-based Learning and Improvement: Demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning;
- **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;
- **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;
- **Professionalism:** Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles"

Course objectives are tied to the MD Educational Program Objectives. Additionally, each clinical clerkship and required acting internship in a given discipline adheres to the same objectives across all clinical campus sites.

Graduation Requirements for the MD Degree

MD Graduation Requirements

All students are required to complete and pass successfully all components of the MD Degree curriculum, USMLE Step 1 and Step 2, four weeks of required Special Topics credit, and a required Scholarly Activity project with milestones in order to graduate. All students are required to participate in the four-year Learning Communities curriculum from matriculation to graduation.

Parallel Curricula and Dual Degree Programs

The Heersink School of Medicine offers several parallel curriculum experiences (e.g., <u>Primary Care Track</u> longitudinal curriculum at the Tuscaloosa clinical campus; <u>MD-PhD MSTP Medical Scientist Training Program</u>) as well as several <u>dual degree programs</u> (e.g., MD-PhD, MD-MPH, MD-MSPH, MD-MBA, etc.). Students enrolled in any parallel curricula and/or dual degree programs are expected to adhere to the specific program requirements for successful completion of those programs/degrees, as well as to the core graduation requirements for the MD degree for successful completion of the medical school training program.

Curriculum Overview

MD Program Curriculum

Pre-Clerkship Courses

All students are enrolled in the pre-clerkship phase on the main campus in Birmingham for the first (MS1) and second (MS2) years. A variety of instructional strategies are employed that include large group and small group instruction, including but not limited to large group discussions, face-to-face and online lecture materials, hands-on demonstrations, virtual imaging and gross dissection laboratories, simulated learning experiences, team-based learning, case-based sessions, patient-based presentations, and self-directed and independent learning activities.

The pre-clerkship curriculum focuses on developing students' communication and clinical skills while exposing students to a wide array of basic science knowledge and clinical scenarios. Several longitudinal themes are woven throughout the pre-clerkship curriculum and may extend into the third and fourth year of the clinical curriculum. Examples of longitudinal themes include cultural competence and health disparities, women's health, geriatrics and palliative care, behavioral sciences, ethics and humanities, prevention and patient education, to name a few. Gross Anatomy is taught in conjunction with the *Fundamentals of Medicine* and organ-based modules in the pre-clerkship curriculum via a combination of laboratory, lecture, small group, case-based, self-directed learning, and team-based learning strategies. Experiential learning in gross anatomy focuses on cadaver dissections and prosections complemented with radiological and surgical anatomy, including ultrasound/CT images.

MS1 Fall Semester (~5 months)

The 2-week *Patient, Doctor, and Society (PDS)* module reinforces with students the principles of professional behavior and medical ethics, evidence-based medicine, effective communication skills; the importance of self-directed learning and reflection; health care systems and the historical context of medicine.

The *Fundamentals of Medicine* module is 17 weeks and split into five blocks, led by a Module Director and five block leaders. *Fundamentals* focuses on building and reinforcing a solid foundation of basic science knowledge that is important to understanding the elementary principles in the basic sciences, including anatomy, biochemistry, histology, genetics, microbiology, immunology, physiology, pathology, and pharmacology.

MS1 Spring Semester thru MS2 Spring Semester (~13 months)

Beginning in January of the MS1 year and for the remainder of the pre-clerkship curriculum, the students participate in organ-based system modules that address basic science concepts as they relate to particular organ system functioning, pathophysiology, and disease management. Basic science principles are woven together with clinical correlates to prepare students for the clerkship years.

MS1 Spring (~5 months):

- Cardiovascular (5 weeks)
- Pulmonary (5 weeks)
- Gastrointestinal (6 weeks)
- Renal (5 weeks)

MS2 Fall (~5 months):

- Neurosciences (10 weeks)
- Musculoskeletal and Skin (6 weeks)
- Endocrine (3 weeks)

MS2 Spring (~3 months):

- Reproductive (4 weeks)
- Hematology-Oncology (~3.5 weeks)
- Evidence-Based Medicine (~1.5 weeks)

Dedicated USMLE Step 1 Study Time

After the completion of the pre-clerkship curriculum, there are several weeks of dedicated USMLE Step 1 study preparation for students. All students must take USMLE Step 1 prior to beginning clerkships. Students must successfully complete the pre-clerkship curriculum and earn a passing score on the USMLE Step 1 examination before students may enter the clinical curriculum, including clerkships. Students must successfully pass both USMLE Step 1 and USMLE Step 2 in order to graduate.

Clerkship Bootcamp and Orientation to Clerkships

Students participate in a 1-week Clerkship Bootcamp to prepare students for the transition from pre-clerkship to clerkship rotations. Following the Clerkship Bootcamp for all students, Clerkship Orientations are held on each of the clinical campuses before students begin third-year clerkships at their designated clinical campuses.

Clerkships

Students enrolled at each of four clinical campuses (Birmingham, Huntsville, Montgomery, and Tuscaloosa) participate in clinical clerkships, acting internships, and electives during the third (MS3) and fourth (MS4) years.

Third-year clerkship rotations provide the opportunity for students to apply the basic sciences, improve problem-solving and critical reasoning skills, continue the development of skills in interviewing and examining patients, and engage students in increasing levels of responsibility for patient care in both hospital and ambulatory settings. Required clerkship disciplines at all clinical sites include internal medicine, family medicine, pediatrics, obstetrics-gynecology, surgery, neurology, and psychiatry. All students are enrolled in the seven clerkship disciplines on all campus sites. Students must successfully complete all 44 weeks of required clerkships at their clinical campus sites.

Clerkship disciplines across all four clinical campuses adhere to the same clerkship objectives and assessments within each of the respective disciplines for comparable educational experiences across campus sites. Students must successfully complete all required clerkships before taking USMLE Step 2 CK or participating in "away"/extramural electives.

The clerkships on the Birmingham, Huntsville, and Montgomery campuses are traditional four-to-eight-week block clerkships. Medicine, Surgery, Pediatrics, and Obstetrics/Gynecology are eight-week blocks. Psychiatry, Neurology, and Family Medicine are four-week blocks. Students on the Tuscaloosa campus are admitted to and enrolled in the Tuscaloosa Primary Care Track that is a hybrid block-longitudinal integrated clerkship parallel curriculum. More information on each of the Regional Clinical Campuses may be found here:

- <u>Huntsville Regional Campus</u>
- <u>Montgomery Regional Campus</u>
- Tuscaloosa Regional Campus and Tuscaloosa Primary Care Track

Deferring a Clerkship

Students have the opportunity to defer one clerkship or ambulatory acting internships (AI) from the MS3 to MS4 year and take one or more acting internships (AIs) or clinical electives in its place (e.g., to explore specialty fields of interest further). Students may only defer a clerkship if the student has successfully completed the (1) Medicine Clerkship, (2) Surgery Clerkship, and (3) any clerkship discipline in which the student is planning to take as the AI or elective, in place of the deferred clerkship.

Other Clinical Rotations – Acting Internships and Electives

Typically, students participate in required acting internships (AIs) and electives after completion of MS3 required clerkships unless they have deferred a clerkship and taken an AI/elective in its place in the MS3 year.

Required Acting Internships (AIs)

Students must complete 12 weeks of required Acting Internships (AIs). Required AIs for the traditional MD Degree include four weeks Medicine AI <u>or</u> Pediatrics AI, four weeks Ambulatory AI, and four weeks Surgery AI <u>or</u> Critical Care AI/Emergency Medicine AI <u>or</u> OB/Gyn AI

- Any AIs completed beyond the required AIs count toward elective credit.
- AI's may be taken in any order following completion of any required prerequisites and clerkships.
- The Medicine AI/Pediatrics AI must be taken on the student's assigned clinical campus.
- Completion of Family Medicine clerkship is prerequisite for enrollment in any required Ambulatory AI.
- MS3 students on the Birmingham campus may enroll in the third-year Rural Medicine clinical elective for elective credit or a four-week required Ambulatory AI (may include Rural Medicine) for Ambulatory AI credit.
- MS3 students on the Huntsville, Tuscaloosa, and Montgomery regional campuses must enroll in a required Ambulatory AI in Rural Medicine that follows the Family Medicine clerkship on that assigned campus. However, students on the regional campuses have the option of deferring both the Family Medicine clerkship and the required Ambulatory AI in Rural Medicine to the fourth year with permission and approval from the respective regional campus.

<u>Electives</u>

Students must complete 22 weeks of Electives.

- Any AIs beyond the required AIs for graduation may be counted toward Elective credit.
- A maximum of four weeks of Co-Enrolled Electives (optional) may be used toward the Elective requirement for graduation.
- Students must successfully complete all required clerkships before taking USMLE Step 2 CK or participating in "away"/extramural electives.
- Electives may be taken at any clinical campus or at approved "away"/extramural sites, including international locations. Extramural elective opportunities are subject to screening and approval by the School of Medicine.

Longitudinal Learning Communities

Longitudinally throughout all four years of medical school, students are required to participate in Learning Communities (LCs) with peers and LC faculty mentors. Students are assigned to one of eleven LCs upon matriculation and typically remain in these LCs until graduation. Attendance at LC meetings is required, with the exception of optional social activities. LCs are Pass/Fail, and students are required to attend 80% of the LC meetings (excluding social activities) to successfully pass the course.

The mission of the LCs course is to foster longitudinal relationships in a safe and inclusive environment to promote personal wellness and professional development. The goal of the LCs program is to create healthy people who will be effective physician leaders. LCs meet on a regular basis throughout medical school, covering a wide variety of topics aimed to develop skills that students need to become healthy, successful people and physician leaders. Components of the Learning Communities curriculum include service learning, health and wellness, ethics, interprofessional education, communication, health disparities, and culturally responsive health care.

Service Learning Experiences

Students have opportunities to participate in optional service-learning activities throughout the curriculum and volunteer in the student free community clinic with faculty preceptors (Equal Access Birmingham, EAB).

Longitudinal Clinical Reasoning, Clinical Skills Integration, Point-of-Focus Ultrasound

The Clinical Skills Scholars (CSS) are a dedicated cadre of trained physician clinical educators who facilitate small group meetings and clinical skills training experiences with Heersink SOM students.

Clinical reasoning and integrated clinical skills are woven longitudinally throughout the pre-clerkship curriculum to provide students with training in doctor-patient communication, interviewing skills and history taking, physical exam and other practical clinical skills, and provide a foundation for clinical experiences in the clerkship curriculum. The goal of clinical skills training in the pre-clerkship curriculum is to help students

- learn about and practice demonstrating the professional behavior and skills of self-directed learning that will make them a successful physician.
- develop the communication skills necessary for effective therapeutic patient relationships and will learn to share patient information and communicate effectively with colleagues and other caregivers.
- become familiar with the techniques of medical interviewing and history taking, as well as more challenging aspects of the medical interview, such as dealing with emotion in the interview and inquiring about sensitive topics.
- develop clinical skills, including physical examination techniques, diagnosis and case presentation.

Clinical reasoning and clinical skills experiences continue longitudinally through years 3 and 4 -- within the clerkships and other clinical rotations, through observable professional activities (OPAs), and in conjunction with regular clinical assessment through OSCEs (Objective Structured Clinical Examinations). Students develop and perform clinical skills throughout clinical mentorship experiences with Clinical Skills Scholars faculty, clerkship directors, and other clinical faculty and staff.

Students also participate in various simulations, interact with real and standardized patients, and receive longitudinal Point-of-Focus (POCUS) ultrasound training in conjunction with pre-clerkship and clinical experiences throughout the curriculum.

Additionally, **Objective Structured Clinical Examinations (OSCEs)** are formalized clinical skills assessments that occur class-wide in the clinical skills curriculum. The OSCEs occur at specified date(s) in an academic year for the MS1, MS2, and M3 classes. Please consult the <u>Academic, Clinical, and Exam Calendars</u>.

Longitudinal Interprofessional Education Experiences

Students participate in interprofessional education and simulation experiences as part of their required courses and clerkships and in collaboration with the UAB Center for Interprofessional Education and Simulation (CIPES). These experiences provide students with a hands-on clinical application of knowledge in a teambased simulated setting, as well as opportunities to develop integral skills in clinical reasoning, communication, team dynamics, and professionalism. Faculty facilitators give real-time feedback using structured debriefing.

Longitudinal Health Equity Experiences

Health equity is embedded longitudinally throughout the MD curriculum through pre-clerkship and clinical experiences as well as formally through the UAB Heersink SOM Project AHEAD. Project AHEAD is a four-year longitudinal health equity curricular thread preparing students for structural and cultural competencies. Learning objectives concern understanding bias and fostering inclusion, as well as developing an understanding of systems that impact health and social determinants of health. These themes are embedded in all courses of the pre-clerkship curriculum and in monthly Social Determinants of Health Grand Rounds during clerkships.

Longitudinal Required Scholarly Activity, Optional Medical Student Research Experiences

Medical Student Research and Scholarly Activity

There are opportunities for optional medical student research and required Scholarly Activity throughout the four-year curriculum. Scholarly Activity is a required component of the four-year curriculum and culminates with completion of the scholarly project, presentation and/or publication. Students choose a Scholarly Activity project of interest, participate in Scholarly Activity required experiences in the curriculum, and work with a Scholarly Activity mentor. Students must complete paperwork and requirements in adherence to the Scholarly Activity milestones established by the Office of Scholarly Activity during their enrollment.

Additional Enrichment Opportunities in the Curriculum

Students have the opportunity to engage in required Special Topics mini-1-to-2-week courses, and optional semester-based Co-Enrolled Electives to round out their medical school experience, on topics that are of particular interest to individual students. Special Topics and Co-Enrolled Electives experiences may be available for enrollment throughout the pre-clerkship, clerkship and pre-residency phases of the SOM curriculum. Students also participate in career advising with Career Advisors and can be involved in teaching experiences as student Teaching Associates.

Special Topics

Special Topics represent one-to-two week "mini-immersion" courses on a broad array of topics that students may select or develop based upon interest. Students and/or faculty may propose a Special Topics course, subject to approval for enrollment by the Associate Dean for Undergraduate Medical Education. Special Topics are available throughout the MS2, MS3, and MS4 years. Four weeks of Special Topics are required for graduation, but students may participate in additional special topics courses on topics of interest.

Co-Enrolled Electives

Co-Enrolled Electives represent optional semester-like experiences that occur concurrently with pre-clerkship and/or clinical courses. Co-enrolled Electives represent additional opportunities for students to engage in topics of interest to augment their educational course of study and may explore a wide variety of issues facing medicine today. Similar to Special Topics offerings, Co-enrolled Elective offerings vary by term and by campus. Students must be active in good standing & may only enroll in one Co-enrolled Elective at a time.

- Students in the MS1 fall term are not eligible to enroll in Co-Enrolled Electives. Provided there is a Co-Enrolled Elective accepting MS1s and the MS1 is in good standing, an MS1 may enroll in a Co-Enrolled Elective in the MS2 spring term.
- Co-enrolled electives may be available for concurrent enrollment of one or more medical student classes during a specified term. For example, it may be possible for a Co-Enrolled Elective to accept students in the MS2-MS4 years. It may also be possible for a Co-Enrolled Elective to be limited to the MS2, MS3, and/or MS4 years.
- Successful completion of a Co-enrolled Elective may be credited toward 2 weeks of elective credit for graduation. A maximum of 4 weeks of Co-enrolled Electives credit (i.e., a maximum of 2 co-enrolled electives only) may be used toward the elective requirement for graduation. Eligible students may still enroll in more than two Co-enrolled Electives during their medical school experience and based upon their interests; however, they may not apply any additional Co-Enrolled Elective credit toward graduation requirements beyond the maximum of two.

Teaching Associate/Skills Training Experiences

There are opportunities for upper-level students to participate as teaching associates (such as for anatomy or interprofessional education experiences).

Career Advising

Students select from a list of Career Advisors in the field of medicine the student has chosen to pursue. With a Career Advisor, each student selects a schedule that completes a well-rounded education and is targeted to prepare the student for residency. This is likely to include opportunities for the student to learn teaching skills that are important in residency.

Preparation for Residency Course

All fourth-year students are enrolled in a required two-week residency preparation course in the spring of the MS4 year, prior to graduation. Students participate in this residency preparation course either in Block 5a or Block 5b of the MS4 year.