

## MD Core Educational Program: General Overview of Curriculum Components

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### General Overview:

Welcome to the UAB School of Medicine! The School of Medicine core undergraduate medical curriculum scaffolds basic science principles with clinical knowledge and applications; encourages active, case-based learning and teamwork; and seeks to train medical students as future physicians involved in competent and compassionate patient care.

All students are enrolled in the pre-clerkship phase (~18 months) on the main campus in Birmingham. The pre-clerkship curriculum includes exposure to the Fundamentals of Medicine, organ-based system modules, Introduction to Clinical Medicine (with Clinical Skills Scholars), and Evidence-Based Medicine.

There are at least six weeks of USMLE Step 1 study preparation between the pre-clerkship and clerkship phases, followed by an Introduction to Clinicals orientation experience at each of the clerkship clinical sites.

Students are enrolled in the clerkship phase (~12 months) at the Birmingham campus or one of the three regional campuses in Huntsville, Montgomery, and Tuscaloosa. The Tuscaloosa campus has a Primary Care parallel longitudinal integrated curriculum (TLC<sup>2</sup>), while the clerkships on the other clinical sites are traditional four-to-eight week block clerkships. Clerkship disciplines across all four sites adhere to the same clerkship objectives and comparable educational experiences.

There is also a required two-week Residency Preparation course near the end of the clerkship phase. Students also participate in acting internships and electives at clinical sites in the pre-residency phase of the curriculum.

There are opportunities for medical student research and Scholarly Activity throughout the four-year curriculum. There are also several components of the curriculum that are woven in longitudinally within the four-year curriculum (including Learning Communities, Introduction to Clinical Medicine, required and optional Service Learning and Interprofessional Education experiences, Special Topics mini-1-to-2-week courses, and optional semester-based Co-Enrolled Electives).

All students are required to successfully pass all components of the MD core curriculum, USMLE Step 1 and Step 2 (CK and CS), and complete a Scholarly Activity project and four weeks of required Special Topics in order to graduate. All students are required to participate in the four-year Learning Communities curriculum as well, from matriculation to graduation.

The School of Medicine offers several parallel curriculum experiences (Primary Care, Medical Scientist Training Program) and dual degree programs (MD-MPH, MD-MBA, etc.). Students enrolled in any parallel curricula or dual degree programs should adhere to those program requirements in addition to core MD graduation requirements.

[Curriculum Schematics](#)

[Academic Year Calendars](#)

[MD Graduation Requirements](#)

## MD Educational Program Objectives and Competency Areas:

The MD Educational Program objectives are based upon the ACGME competencies, including the following:

- 1) Patient Care: Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health;
- 2) 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;
- 3) 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;
- 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;
- 5) 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;
- 6) Professionalism: Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles”

[MD Educational Program Objectives](#)

[Clerkship Objectives and Required AI Objectives by Discipline](#)

### Regional Campuses:

[Huntsville Regional Campus](#)

[Montgomery Regional Campus](#)

[Tuscaloosa Regional Campus](#) and [TLC<sup>2</sup> Parallel Longitudinal Curriculum](#)

### Scholarly Activity:

[Medical Student Research and Scholarly Activity](#)

## Detailed Curriculum Specifics:

### Longitudinal Components in the Four-Year Curriculum

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.

**Required and optional service learning and interprofessional education opportunities** are available throughout the curriculum, in conjunction with community-based collaborations (such as Equal Access Birmingham), courses and clerkships, Learning Communities, Introduction to Clinical Medicine (ICM), and the Center for Interprofessional Education and Simulation.

**Interprofessional Simulation** opportunities are incorporated into the majority of the pre-clerkship courses. These experiences provide students with a hands-on clinical application of the themes covered in preclinical modules. In addition to the clinical content, a structured interprofessional curriculum is covered in a team based setting with students and faculty from the school of nursing. Faculty members give real time feedback using a structured debriefing format.

The **Learning Communities (LC)** course spans all four years of medical school as a core curriculum requirement. The mission of the Learning Communities Program is to foster longitudinal relationships in a safe and inclusive environment to promote personal wellness and professional development. Our goal 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. Students are assigned to one of eleven LCs upon matriculation. Students remain in these LCs until graduation. Components of the Learning Communities curriculum include service learning, health and wellness, ethics, interprofessional education, communication, health disparities, and culturally responsive health care. Attendance at Learning Community meetings is required, with the exception of social activities, which are optional. Students are required to attend 80% of the Learning Community meetings (excluding social activities) to successfully pass the course. Learning Communities are Pass/Fail.

**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 years 2-4. 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** represent optional semester-like experiences that occur concurrently with pre-clerkship and clinical courses and may explore a wide variety of issues facing medicine today. Co-enrolled elective offerings vary by term and by year but represent additional opportunities for students to engage in topics of interest to augment their educational course of study. Students must be active in good standing and may only enroll in one co-enrolled elective at a time. Co-enrolled electives may be available for concurrent enrollment of one or more medical student classes during a specified term but are not available for first-year medical student enrollment in the fall term. Successful completion of a co-enrolled elective may be credited toward 2 weeks of elective credit. A maximum of 4 weeks of co-enrolled electives (2 co-enrolled electives only) may be used toward the elective requirement for graduation.

## Pre-clerkship Curriculum (~18 months)

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. There are a variety of instructional strategies employed within the pre-clerkship curriculum, including large group discussions, lectures, hands-on and virtual imaging laboratories, clinical correlation workshops, small group activities, and various team-based, case-based, independent, and/or self-directed learning activities. Typically, courses are incorporated into the pre-clerkship curriculum as specific "modules" and serve to consolidate basic science knowledge and clinical correlates in structured segmental experiences, with elements of integration and review. Each module typically is coordinated and led by a Module Director (a joint health medical sciences faculty member) and one or more Clinical Co-director(s) so as to balance and reinforce the relationship of basic science knowledge with clinical correlations and patient care.

There are two introductory modules in the fall term of the first year. The **Patient, Doctor, and Society (PDS)** module (2 weeks) 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; and the historical context of medicine. The **Fundamentals of Medicine** module (17 weeks) focuses on building and reinforcing a solid foundation of basic science knowledge that is important to understanding the elementary principles in the basic sciences, cell biology and genetics, microbiology and immunology, the pathophysiology of disease, and principles and mechanisms of pharmacology.

The remainder of the first-year and second-year curriculum is comprised of **nine organ-based modules** that include Cardiovascular, Pulmonary, Gastrointestinal, Renal, Neurosciences, Musculoskeletal and Skin, Endocrine Systems, Reproductive Systems, and Hematology-Oncology. The organ-based modules address basic science concepts as they relate to particular organ system functioning, pathophysiology, and disease management. Basic science principles addressed for each organ system are woven together with clinical correlates and applications to prepare students for the clerkships.

A one-week **Evidence-Based Medicine (EBM) course** occurs at the end of the second-year medical curriculum, upon completion of the organ-based system modules.

Additionally, throughout the pre-clerkship curriculum, **gross anatomy** is taught in conjunction with the fundamentals and organ-based modules 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 that are complemented with radiological and surgical anatomy, including ultrasound and CT images

**Introduction to Clinical Medicine (ICM)** extends longitudinally throughout the first two years concurrently with the pre-clerkship modules to provide students with history taking, physical exam, and practical clinical skills and doctor-patient communications training. Clinical experiences in ICM in the pre-clerkship curriculum provide a foundation for clinical experiences in the clerkship curriculum. Throughout ICM, students will learn about and practice demonstrating the professional behavior and skills of self-directed learning that will make them a successful physician. Initially, students will 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. Students will 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. Students then progress to the clinical skills of physical examination techniques, physical diagnosis and case presentation.

ICM develops and reinforces history-taking and physical exam skills in combination with small group meetings, lectures and large group discussions, demonstrations, practice exam sessions, and other clinically related experiences. The material presented in ICM is integrated to correlate with each pre-clerkship module (PDS, Fundamentals of Medicine, and the nine organ-based modules).

From the first week of medical school, students are exposed to patients. ICM provides students with opportunities to interact with patients, to learn clinical skills, and to begin to apply students' growing medical knowledge. Upon matriculation, each student is assigned to an ICM small group based upon

his/her Learning Communities small group assignment. Each ICM group is paired with a Clinical Skills Scholar (CSS) who is a trained physician clinical educator who facilitates the CSS-led ICM small group meetings with students throughout the entire pre-clerkship curriculum. The majority of ICM experiences include these small group meetings with the Clinical Skills Scholars (CSS) or with fourth-year medical students who serve as clinical skills teaching associates (CSTAs) for CSTA-led ICM experiences.

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.

## **Required clerkships (~12 months)**

Third-year clinical courses, or clerkships, provide the opportunity to apply the basic sciences, to improve problem-solving and critical reasoning skills to continue the development of skills in interviewing and examining patients, and to allow increasing levels of responsibility for patient care in both hospital and ambulatory settings.

Students are enrolled in the clerkship phase (~12 months) at the Birmingham campus or one of the three regional campuses in Huntsville, Montgomery, and Tuscaloosa. The Tuscaloosa campus has a Primary Care parallel longitudinal integrated curriculum (TLC<sup>2</sup>), while the clerkships on the other clinical sites are traditional four-to-eight week block clerkships. Eight-week clerkships include Medicine, Surgery, Pediatrics, and Obstetrics/Gynecology. Four-week clerkships include Psychiatry, Neurology, and Family Medicine. Clerkships may be taken in any order.

Clerkship disciplines across all four sites adhere to the same clerkship objectives and comparable educational experiences. Students must successfully complete all 44 weeks of required third-year clerkships at their clinical campus sites (Birmingham, Tuscaloosa, Huntsville, or Montgomery).

Students in the third year do have the opportunity to defer one clerkship to the fourth year and take one or more acting internships (AIs) or clinical electives. For example, a student may wish to defer a clerkship to explore specialty fields of interest further. A student in the third year only may defer a clerkship, ambulatory AI, or Scholarly Activity 8-week credit to the fourth year provided that the student has successfully completed the (1) Medicine Clerkship, (2) Surgery Clerkship, and (3) any clerkship discipline in which the student is planning to add as the AI or elective.

Students must successfully complete all required clerkships before taking Step 2 CK or participating in "away"/extramural electives.

Special Topics and Co-Enrolled Electives experiences may also be available for enrollment throughout the clerkship and pre-residency phases of the SOM curriculum.

## Scholarly Activity (~ 2 months)

The Scholarly Activity is a required component of the four-year curriculum and culminates with completion of the scholarly project.

The goals of the Scholarly Activity are to

- (1) provide students with an opportunity to employ their unique skills and talents to pursue a project of their choosing under the mentorship of an expert in the field;
- (2) provide mentorship and guidance for students interested in careers that integrate research, teaching, and clinical service (academic medicine);
- (3) foster development of analytical thinking skills, rational decision making, and attention to the scientific method;
- (4) enhance communication skills; and
- (5) enhance self-directed learning.

Whether a student intends to pursue a career in academic medicine or in private practice, skills in analytical thinking and rational decision making are essential for medical practice in the 21<sup>st</sup> century. By having students design, perform, and present a scholarly project of their own choosing, the Scholarly Activity provides a unique opportunity to develop and enhance skills in analytical thinking and rational decision making.

Faculty serve as Scholarly Activity mentors in a variety of focus areas, depending upon the nature of their research: (1) Laboratory-based biomedical research, (2) Patient-based research, (3) Medicine and humanities, including ethics, (4) Community and rural health, (5) Public and international health, (6) Health education and outcomes research/quality measures/informatics. It is the hope that under the mentorship of a faculty expert that students will use this opportunity to develop a project that embodies not only student *talents*, but also student *passions*.

The Scholarly Activity project must be designed to test a specific hypothesis or investigate a specific question within a focus area. This can be achieved through (1) data collection and analysis or (2) a critical review of the literature or existing data. Depending upon the nature of the project, students may work independently or as part of a team. However, the Scholarly Activity requires that each student submit a sole authored final paper, even if the student plans to submit the paper for publication under joint authorship.

## Pre-residency experiences (~10 months), including acting internships and electives

Students will select from a list of Career Advisors in the field of medicine the student has chosen to pursue. With a Career Advisor, each student will select a schedule that completes a well-rounded education that also 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. A residency preparation course is also available.

Additionally, there are opportunities for students to revisit anatomy and the core pre-clerkship sciences with focused anatomic dissection based upon anticipated residency training (such as surgery). There are also opportunities for students to enroll as clinical skills teaching associates (CSTAs) with ICM and teaching associates for interprofessional education simulation experiences. Special Topics and Co-Enrolled Electives experiences may also be available for enrollment.

There is a required two-week Residency Preparation course near the end of the clerkship phase before students enter the pre-residency phase. Students also participate in acting internships and electives at clinical sites in the pre-residency phase of the curriculum.

During their senior year, students must complete 12 weeks of required Acting Internships (AIs). Required AIs include (1) four weeks Medicine AI, (2) four weeks Ambulatory AI, and (3) four weeks Surgery AI or Critical Care AI. AI's may be taken in any order following completion of any required prerequisites and clerkships. Any AIs completed beyond the required AIs count toward elective credit. The required Medicine AI and Ambulatory AI must be taken on the student's assigned clinical campus. Completion of the Family Medicine clerkship is a prerequisite for enrollment in any required Ambulatory AI.

When students enroll in the required Ambulatory AI may vary by student and by clinical campus in completion of other clerkship and required experiences. Students in the third year 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. Students in the third year 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.

Students must also complete 22 weeks of Electives, which may be taken within the tri-campus system or at other approved sites including international locations. Extramural elective opportunities are subject to screening and approval by the School of Medicine. Any AIs beyond the required AIs for graduation may be counted toward Elective credit. Additionally, 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. Students must successfully pass both USMLE Step 2 CK and Step 2 CS in accordance with graduation requirements.