The University of Texas
Health Science Center at Houston
McGovern Medical School

2024-2025 Academic Catalog

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MCGOVERN MEDICAL SCHOOL

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About Us

Introduction

On November 11, 1968, the Coordinating Board of the Texas College and University System approved the establishment of a new four-year public school of medicine in the Texas Medical Center in Houston. On June 13, 1969, The University of Texas Medical School at Houston was created by act of the Legislature, and an appropriation for its initial cost became effective September 1, 1969. Three considerations led to the organization of the school: local, regional, and national shortages of physicians; the extraordinary, but until then underutilized, resources for medical education in Houston and in the Texas Medical Center; and the large number of well-qualified candidates seeking entry to medical school.

A dean and supporting staff were appointed in the spring of 1970. Two years were then devoted to assembling faculty, resources, and equipment; designing a curriculum; and organizing these various parts into an effective medical education institution. During this period, The University of Texas Medical School at Houston was accredited by the Association of American Medical Colleges (AAMC) Liaison Committee on Medical Education (LCME). The faculty grew rapidly, and effective instruction began, in both the basic sciences and clinical disciplines. New facilities were opened, major construction programs were initiated, and the renovation of what is now known as Memorial Hermann-Texas Medical Center was completed. In 1972, The University of Texas Medical School at Houston, along with five other degree programs, was incorporated into The University of Texas Health Science Center at Houston (UTHealth Houston).

In November 2015, after a transformational gift from the McGovern Foundation, the school was renamed John P. and Kathrine G. McGovern Medical School, placing a renewed emphasis on humanism, ethics, research, and scholarship.

Along with the Doctor of Medicine degree, McGovern Medical School offers a Master of Science in Clinical Research which began enrollment in 2002 and the Master of Science in Anesthesia which began enrollment in 2024.

Now, more than 50 years after incorporation, McGovern Medical School at UTHealth Houston has achieved a position of excellence among the notable institutions in the Texas Medical Center.

Message from the Executive Dean

A Message from the Executive Dean of McGovern Medical School

Hello,

McGovern Medical School is proud to offer an excellent curriculum to educate and mentor compassionate physicians and biomedical scientists instilled with a passion for lifelong learning. Our outcomes-based curriculum is founded within a context of medical humanities and innovative technology.

Within the expanse of The University of Texas Health Science Center at Houston (UTHealth Houston) and the Texas Medical Center, McGovern Medical School is poised to offer a collaborative and supportive environment.

Our school fosters an outstanding community promoting professionalism and leadership. With our hospital affiliates, including the Memorial Hermann Hospital System, Lyndon B. Johnson Hospital, the UTHealth Houston Harris County Psychiatric Center, and the UT MD Anderson Cancer Center, we offer an outstanding clinical environment for learners, providing excellent care and working to eliminate health care disparities.

I invite you to learn more about our degree programs and curriculum.

Warm regards,

John Hancock, MA, MB, BChir, PhD, ScD
Executive Dean
H. Wayne Hightower Distinguished Professor
McGovern Medical School at UTHealth Houston

Mission Statement

The mission of the McGovern Medical School is to educate a diverse body of future physicians and biomedical scientists for a career dedicated to the highest ideals of their profession; to provide outstanding patient-centered care; and to conduct innovative research that benefits the health and well-being of the population of Texas and beyond.

Core Values

- Deliver compassionate patient care focusing on effectiveness, quality, safety, and service
- Provide a competency-based curriculum emphasizing integrity and professionalism
- Embrace a culture of lifelong learning, evidence-based practice, open inquiry, and scholarship
- Cultivate professional and respectful communication
- Support the health and well-being of students, faculty, and staff
- Promote interprofessional collaboration
- Support leadership and innovation in teaching, research, and service
- Advocate for excellent care for the underserved and for the reduction of health care disparities

Accreditation

University Accreditation

The University of Texas Health Science Center at Houston is accredited by the Southern Association of Colleges and Schools Commission

on Colleges (SACSCOC) to award baccalaureate, masters, doctoral, and professional degrees. Degree-granting institutions also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of The University of Texas Health Science Center at Houston may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org (https://www.sacscoc.org/)).

McGovern Medical School MD Program Accreditation

The McGovern Medical School is accredited by the Liaison Committee on Medical Education (LCME) located at:

655 K Street, NW, Suite 100, Washington, DC 20001
Telephone: 202.828.0596
https://www.lcme.org; lcme@aamc.org

School Administration and Faculty

Administrative Officers

Deans

John Hancock, MB, MA, BChir, PhD, ScD
Executive Dean
Executive Director, The Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases

LaTanya J. Love, MD
Dean of Education

Martin Citardi, MD
Vice Dean for Clinical Technology

Mark D. Hormann, MD
Vice Dean for Educational Programs

Margaret C. McNeese, MD
Vice Dean for Admissions and Student Affairs

Bela Patel, MD
Vice Dean for Healthcare Quality

Jon E. Tyson, MD, MPH
Vice Dean for Clinical Research and Healthcare Quality

Sheela L. Lahoti, MD
Senior Associate Dean for Admissions and Student Affairs

Nancy O. McNiel, PhD
Senior Associate Dean for Administrative Affairs

Kevin A. Morano, PhD
Senior Associate Dean for Faculty Affairs

Julie T. Page, CPA
Senior Associate Dean for Clinical Business Affairs

Pamela Promecene-Cook, MD
Senior Associate Dean for Graduate Medical Education

Angela H. Smith, CPA
Senior Associate Dean for Finance

John H. Byrne, PhD
Associate Dean for Research

Wallace A. Gleason, Jr., MD
Associate Dean for Admissions and Student Affairs

Tien Ko, MD
Associate Dean for Harris County Programs

Dana M. McDowelle, PhD
Associate Dean for Admissions and Student Affairs

Charles C. Miller, PhD
Associate Dean for Hospital Quality Initiatives

Thomas J. Murphy, MD
Associate Dean for Community Affairs and Health Policy

Philip R. Orlander, MD
Associate Dean for Educational Programs

Allison R. Ownby, PhD, MEd
Associate Dean for Educational Programs

Nahid Rianon, MD
Associate Dean for Faculty Affairs

Eric J. Thomas, MD, MPH
Associate Dean for Healthcare Quality

Sean C. Blackwell, MD
Assistant Dean for Healthcare Quality, Women's & Perinatal

Peter Doyle, MD
Assistant Dean for Harris County Programs

Hilary Fairbrother, MD
Assistant Dean for Educational Programs

J. Chase Findley, MD
Assistant Dean for Accreditation and Educational Quality Improvement

Johnson George, MBA
Assistant Dean of Administration and Faculty Affairs

Peggy Hsieh, MEd, PhD
Assistant Dean for Educator Development

Samuel D. Luber, MD
Assistant Dean for Graduate Medical Education

Nany Perrier, MD
Assistant Dean for Admissions and Student Affairs

Bal Reddy, MD
Assistant Dean for Admissions and Student Affairs

John Riggs, MD
Assistant Dean for Professionalism

Tara Tuchaai, PhD
Assistant Dean for Student Success Initiatives

Eugene C. Toy, MD
Assistant Dean for Educational Programs

Directors

Darla Brown
Director, Office of Communications

Nathan Carlin, PhD
Director, The John P. McGovern Center for Humanities and Ethics

Samuel E. Neher, MS, EdD
Director, Accreditation and Continuous Quality Improvement

McGovern Medical School Departments and Faculty

The most current listing of faculty is available on each department's website.

Anesthesiology, Critical Care and Pain Medicine
https://med.uth.edu/anesthesiology/

Biochemistry and Molecular Biology
https://med.uth.edu/bmb/

Cardiothoracic and Vascular Surgery
https://med.uth.edu/cvs/

Dermatology
https://med.uth.edu/dermatology/

Diagnostic and Interventional Imaging
https://med.uth.edu/radiology/

Emergency Medicine
https://med.uth.edu/emergencymedicine/

Family and Community Medicine
https://med.uth.edu/familymedicine/

Integrative Biology and Pharmacology
https://med.uth.edu/ibp/

Internal Medicine
https://med.uth.edu/internalmedicine/

Microbiology and Molecular Genetics
https://med.uth.edu/mmg/

Neurobiology and Anatomy
https://med.uth.edu/nba/

Neurology
https://med.uth.edu/neurology/

Neurosurgery
https://med.uth.edu/neurosurgery/

Obstetrics, Gynecology and Reproductive Sciences
https://med.uth.edu/obgyn/

Ophthalmology and Visual Science
https://med.uth.edu/ophthalmology/

Orthopedic Surgery
https://med.uth.edu/ortho/

Otorhinolaryngology-Head and Neck Surgery
https://med.uth.edu/orl/

Pathology and Laboratory Medicine
https://med.uth.edu/pathology/

Pediatric Surgery
https://med.uth.edu/pediatricsurgery/

Pediatrics
https://med.uth.edu/pediatrics/

Physical Medicine and Rehabilitation
https://med.uth.edu/pmr/

Psychiatry and Behavioral Sciences
https://med.uth.edu/psychiatry/

Surgery
https://med.uth.edu/surgery/

Departments and Chairs

Anesthesiology, Critical Care and Pain Medicine

Holger K. Eltzschig, MD, PhD

Biochemistry and Molecular Biology

Rodney E. Kellems, PhD

Cardiothoracic and Vascular Surgery

Anthony Estrera, MD

Dermatology

Ronald P. Rapini, MD

Diagnostic and Interventional Imaging

Susan D. John, MD

Emergency Medicine

Samuel Luber, MD, MPH, *ad interim*

Family and Community Medicine

Carlos A. Moreno, MD, MSPH

Integrative Biology and Pharmacology

Carmen Dessauer, PhD

Internal Medicine

David D. McPherson, MD

Microbiology and Molecular Genetics

Michael Lorenz, PhD

Neurobiology and Anatomy

Pramod K. Dash, PhD

Neurology

Louise D. McCullough, MD, PhD

Neurosurgery

Jacques Morcos, MD

Obstetrics, Gynecology and Reproductive Sciences

Sean C. Blackwell, MD

Ophthalmology and Visual Science

Timothy J. McCulley MD

Orthopedic Surgery

Walter R. Lowe, MD

Otorhinolaryngology- Head & Neck Surgery

Martin J. Citardi, MD

Pathology and Laboratory Medicine

Md Amer Wahed, MD

Pediatric Surgery

Kevin P. Lally, MD

Pediatrics

Mary E. Aitken, MD, MPH

Physical Medicine and Rehabilitation

Gerard Francisco, MD

Psychiatry and Behavioral Sciences

Jair C. Soares, MD, PhD

Surgery

Richard J. Andrassy, MD

Affiliated Hospitals and Outpatient Facilities

McGovern Medical School at UTHealth Houston (McGovern Medical School) is affiliated with several inpatient hospitals, including Memorial Hermann-Texas Medical Center (Memorial Hermann Hospital System), Children's Memorial Hermann Hospital, Lyndon B. Johnson Hospital (Harris Health System), The University of Texas MD Anderson Cancer Center, TIRR Memorial Hermann, John S. Dunn Behavioral Sciences Center at UTHealth Houston, and UTHealth Houston Harris County Psychiatric Center (HCPC), providing a broad range of clinical services. As such, the students are exposed to a large and diverse population, with an appropriate balance of common and rare disorders.

Please see affiliated hospitals (https://med.uth.edu/) for further information.

Ambulatory care and training are provided at the UT Physicians clinics, at eight community health centers operated by the Harris Health System, and at several other clinical outreach programs and WIC (Women, Infants and Children) clinics located throughout the greater Houston community. Please see UT Physician clinic locations (https://www.utphysicians.com/locations/) for further information.

Tuition and Fees

Tuition and fees are subject to change and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular student fee. Student fees are authorized by state statute; the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

For a current list of tuition and fees for all McGovern Medical School academic programs please refer to the Office of the Bursar website here (https://www.uth.edu/bursars/student-resources/tuition-fees/).

For information on Cost of Attendance (https://www.uth.edu/sfs/cost-of-attendance.htm) (COA) and other financial information please refer to the UTHealth Houston Student Financial Services (https://www.uth.edu/sfs/) website. The COA is an estimated cost of a student's educational and living expenses for the period of enrollment. It includes tuition, fees, books/supplies, room and board, and other expenses.

Academic Standards

For information regarding policies and procedures of the following programs see the respective websites.

MD Degree (https://med.uth.edu/oep/policies/)

MSCR Degree (p. 12)

MSA Degree (p. 8)

UTHealth Houston Handbook of Operating Procedures (HOOP)

Students are charged with knowledge of and compliance with all UTHealth Houston regulations concerning student conduct and discipline as set forth in the UTHealth Houston HOOP (https://www.uth.edu/hoop/).

HOOP Policy 101, Disability and Pregnancy Accommodation

UTHealth Houston is committed to providing reasonable accommodation to all members of the University community and to individuals who access services or programs of the University who have or had an impairment that substantially limits a major life activity. Reasonable accommodation may be provided to an individual with a disability to enable the individual to participate in University academic programs, services, and activities, so long as it does not create undue hardship or fundamentally alter the essential elements of a program or position.

Students seeking disability-related accommodation must contact University Relations & Equal Opportunity (UREO) (https://go.uth.edu/equalopportunity/) to initiate the accommodation process. Accommodation requests are considered on a case-by-case basis considering the student's individual limitations, accommodation needs, and the operational realities of the university. If the requestor is determined to be a qualified individual, the requestor, the designated Section 504 Coordinator and applicable faculty will engage in an interactive process facilitated by UREO to determine if it is possible to grant reasonable accommodation.

Accommodations are not retroactive, and require advance notice to implement. To allow adequate time to evaluate the required documentation, engage in the interactive process, and make arrangements for any accommodation to be provided, requestors are strongly urged to contact UREO as soon as possible.

The school is not required to grant accommodations that constitute a fundamental alteration of the program or course. Specifically, the school does not have to modify a requirement, including attendance, that is essential to the educational purpose or objective of a program or class. Decisions regarding essential requirements of a course or program will be made by a group of people who are trained, knowledgeable, and experienced in the area through a careful, thoughtful, and rational review of the academic program and its requirements. Decision-makers will consider a series of alternatives for the essential requirements, as well as whether the essential requirement(s) in question can be modified for a specific student with a disability.

For additional information on the disability accommodation process, please see HOOP Policy 101, Disability and Pregnancy Accommodation (https://www.uth.edu/hoop/policy.htm?id=1448050).

A list of UTHealth Houston 504 Coordinator's by school can be found here (https://www.uth.edu/hoop/section-504-coordinators.htm).

HOOP Policy 112, Religious Accommodation

The University of Texas Health Science Center at Houston is committed to providing an academic and work environment that is respectful of the religious beliefs of its trainees and employees in accordance with state and federal laws and regulations. Accommodations may be provided to trainees and employees whose sincerely held religious beliefs conflict with a University policy, procedure, or other academic or employment requirement.

For more information on religious accommodations, please see HOOP Policy 112, Religious Accommodation (https://www.uth.edu/hoop/policy.htm?id=1448072).

HOOP Policy 186, Student Conduct and Discipline

All students are required to obey federal, state, and local laws and to comply with the University of Texas System Board of Regents Rules and Regulations, the rules and regulations of The University of Texas Health Science Center at Houston, and directives issued by administrative officials of the University or UT System in the course of their authorized duties. Students are also required to obey standards of conduct appropriate for the academic institution. Any student who engages in conduct that violates the Regents' Rules and Regulations, University or UT System rules, or federal, state, or local laws is subject to disciplinary action.

For additional information on the student conduct and discipline process, please see HOOP Policy 186, Student Conduct and Discipline (https://www.uth.edu/hoop/policy.htm?id=1448220).

Programs of Study

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Master of Science in Anesthesia (MSA)

Program Description

The Master of Science in Anesthesia (MSA) is a 28-month, full-time, graduate-level program that requires 100 semester credit hours taken over seven consecutive semesters. This competency-based program integrates didactic learning, simulation-based training, and clinical instruction to prepare students for a career as a Certified Anesthesiologist Assistant.

The MSA program will educate and train students to manage complex clinical cases as part of the Anesthesia Care Team (ACT). Students will learn standard anesthesia technical skills, how to use an anesthesia machine, how to communicate effectively with patients, and how to manage anesthetic cases. After rigorous academic and clinical training, graduates will be qualified to provide anesthetic care under the direction of a physician anesthesiologist. The goal of the MSA program is to prepare competent entry-level Anesthesiologist Assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

Students will receive didactic instruction encompassing all relevant topics appropriate to the clinical anesthetist. Students will benefit from learning from various teaching platforms, such as problem-based learning discussions, flipped classroom sessions, and traditional lectures. Procedural skills and anesthesia case management will be trained in a simulation lab focusing on both technical and non-technical skills to prepare students for the rigors of the perioperative environment. Students will complete a minimum of 650 anesthetic cases and 2,500 hours of clinical training, gaining exposure to unique and complex surgical procedures by leading medical and procedural experts.

Overall, Certified Anesthesiologist Assistants receive training in basic medical science and clinical practice to utilize modern technology to monitor and interpret data in all anesthesia care environments. Upon completion of the program, graduates will be able to:

- Gather and interpret patient information
- Synthesize and present organized evaluations of their findings to physicians
- Interpret data from invasive monitoring, administer anesthetics and controlled substances under the direction of supervising physician anesthesiologists
- Establish and maintain appropriate airway management and provide ventilator support

- Evaluate and treat life-threatening events according to established life support protocols such as Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), and Pediatric Advanced Life Support (PALS)

Upon program completion, students will meet the requirements to take the National Certification Examination, administered by the National Commission for the Certification of Anesthesiologist Assistants (NCCAA). After passing, graduates become Certified Anesthesiologist Assistants.

Accreditation

The Master of Science in Anesthesia (MSA) Program at The University of Texas Health Science Center at Houston has completed a site visit for pursuing initial accreditation by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org). This step in the process is neither a status of accreditation nor a guarantee that accreditation will be granted.

CAAHEP is located at 9355 113st N. #7709, Seminole Florida, 33775, and can be reached at 727.210.2350 or at mail@caahep.org. The CAAHEP website is www.caahep.org. ARC-AA can be reached at 612.836.3311 or at arc-aa@arc-aa.org.

General Admission Requirements for the MSA Program

Citizenship

Must be a U.S. citizen or permanent resident

Degree

A bachelor's degree from an accredited institution of higher education

Prerequisites

All prerequisites must be completed prior to matriculation. Course substitutions will not be considered. All prerequisites must be completed at a regionally accredited institution of higher education in the United States, U.S. territory or Canada.

The minimum grade for each prerequisite is 3.00. If a course is repeated (i.e. for a better grade), all grades will be incorporated in the computation. This method of calculation is adopted to give fair weight to applicants who attempted the course only once.

- Biology I (4 credits)
- Biology II (4 credits)
- Chemistry I (4 credits)
- Chemistry II (4 credits)
- Physics I (4 credits)
- Physics II (4 credits)
- Organic Chemistry I (4 credits)
- **Human Anatomy I or Human Anatomy & Physiology I (4 credits)
  - Beginning in the 2025 – 2026 application cycle, only Human Anatomy and Physiology I will be accepted. Human Anatomy I will not be accepted to fulfill this prerequisite in the 2025 – 2026 application cycle.
  - Human Anatomy II or Human Anatomy and Physiology II (4 credits) is not a requirement for the 2024 – 2025 application cycle. Beginning in the 2025 - 2026 application cycle, Human Anatomy and Physiology II will be a required prerequisite.
- **Biochemistry (3 credits)
- Calculus I (4 credits)
  - Precalculus and survey courses will not fulfill this requirement
- English (3 credits)
  - This can also be fulfilled with other expository writing courses in the humanities.

**Human Anatomy/Human Anatomy & Physiology, and Biochemistry must be taken within 5 years of the application deadline. All other prerequisites must be taken within 7 years of the application deadline.

Grade Point Average (GPA)

Minimum cumulative GPA of 3.00

Standardized Test Scores

- Medical College Admission Test (MCAT) is the preferred standardized exam for admission.
  - Minimum acceptance score: 494.
  - MCAT score must be within 3 years of the date of application submission.
- Graduate Record Examinations (GRE) scores will be considered.
  - Minimum Verbal Reasoning score: 153
  - Quantitative Reasoning score: 156
  - Analytical Writing Score: 4.0 or above.

Applicants with a strong application but do not achieve the minimum standardized test score will be evaluated by the admissions team on an individual basis. If an applicant has taken both exams, they should submit official scores from both exams. Acceptance of an applicant into the program will be at the final discretion of the admissions committee.

Physical and Technical Requirements:

All applicants must have the general abilities required of anesthesia healthcare providers. This includes:

- Motor skills – the physical ability to perform the technical and procedural functions required in patient care, including the ability to perform complex two-handed skills.
- Communication skills – the ability to effectively communicate with patients, faculty, staff and peers both in written and oral form.

- Physical health – the physical capacity to stand for prolonged periods of time in an operating room and/or clinic, the ability to lift up to ten pounds of equipment (intravenous fluids, monitors and other equipment necessary to administer a complete anesthetic).
- Sensory abilities – the ability to assess a patient utilizing the five senses, including sight, hearing and touch.
- Professionalism – must exhibit professional behavior, including honesty, altruism, respect for others, compassion, empathy, and respect for patient privacy.

A disability does not preclude a student from admission. The UTHealth Houston MSA Program is committed to providing equal opportunities for qualified students with disabilities in accordance with state and federal laws and regulations. The intent of the law is to ensure equal access to individuals with disabilities who are otherwise qualified to meet the essential demands of the program.

For more information see UTHealth Houston Handbook of Operating Procedures (HOOP) Policy 101 Disability and Pregnancy Accommodation.

Shadowing Experience

A minimum of eight (8) hours shadowing an anesthesia provider (Anesthesiologist, Anesthesiologist Assistant, or Certified Registered Nurse Anesthetist) is required prior to the application deadline. The UT MSA Program does not have a formal program for assistance with shadowing opportunities.

Personal Statement

A narrative explaining your motivation for applying to the Master of Science in Anesthesia Program.

Letters of Recommendation

Three (3) professional letters of recommendation from individuals who can attest an applicant's strengths and weaknesses. Evaluators will upload their letters onto the CASAA online evaluation portal (see application process). Evaluations should specifically be written to describe the applicant's potential contribution to the field of medicine as an anesthesiologist assistant.

Transfer of Credit

The MSA program does not accept transfer of credits from other MSA programs.

Application Procedure

Applications should be submitted online through the Centralized Application Service for Anesthesiologist Assistants (CASAA). CASAA is a service of the Association of Anesthesiologist Assistant Education Programs (AAAEP), the national organization of educational leaders collaborating to advance and support Anesthesiologist Assistant (AA) education.

The following are required:

1. A completed CASAA application with documents that include a Curriculum Vitae, shadowing/healthcare hours, and verification that the MCAT or GRE has been taken. Each applicant will be required to submit a personal statement that explains their interest in becoming an Anesthesiologist Assistant.
2. Letters of reference (3) on official letterhead from individuals who are qualified to evaluate the applicant's academic or professional performance, as well as ability and motivation to complete the program.
3. Official transcripts covering all periods of post-secondary enrollment in accredited institutions of higher education. Applicants should request the institution to send official (original) electronic transcripts directly through the CASAA portal. Copies of official transcripts sent by the applicant are not considered. Transcripts must include both grades and credit hours.
4. Applicants who are nationals of countries where English is not the parent language are required to submit scores from the Test of English as Foreign Language (TOEFL).

Applicants can contact the Program Manager, Kimesha Webb (kimesha.webb@uth.tmc.edu) for further questions regarding the application process. The MSA program utilizes a rolling admission system where early offers can be made.

Tuition and Fees

Beginning Fall 2024, the MSA resident tuition will be $1,080 per semester credit hour. The non-resident tuition will be $1,910 per semester credit hour.

Tuition and fees are subject to change and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular student fee. Student fees are authorized by state statute; the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

Please refer to the Office of Bursar Student Resources website (https://www.uth.edu/bursars/student-resources/) for the current Tuition and Fee Schedules. Additional student Information regarding tuition and fee exceptions and/or waivers, Veterans education benefits, and the Policy for Texas Resident Tuition can be found on the Registrar's website here (https://www.uth.edu/registrar/current-students/).

MSA Curriculum

The MSA program is a contiguous seven-semester model (including summer sessions) encompassing a combination of didactic and simulation-based learning as well as significant clinical experience in anesthesia and perioperative medicine. The prescribed course of study features an early introduction into the clinical setting to apply basic science and anesthesia-specific didactic knowledge. The primary clinical training sites will be at clinical affiliate anesthesiology groups within the Texas Medical Center located in Houston. Senior and advanced clinical experiences will also be gained at affiliated facilities through strategic partnerships with community anesthesiology groups throughout the Houston region and the State of Texas.

The curriculum is divided into three areas: (1) didactic coursework, (2) simulation labs, and (3) clinical work. Didactic courses are designed to build base knowledge of organ systems and their functions, pathophysiology, medical terminology, and the utility and function of anesthesia-related equipment. Simulation experience is utilized to apply didactic knowledge in a safe environment where students can practice both technical and clinical practice skills. Lastly, students further strengthen their clinical knowledge by working with physician anesthesiologists and certified anesthesiologist assistants to manage

patients in a clinical setting, focusing on airway management, hemodynamic support, anesthesia induction, maintenance and extubation, lab interpretation, crisis management and other core skills.

*There will not be an option to transfer credit, receive credit for professional experience or to place out of courses.

MSA Course List

Semester 1 - Fall

ANES 5202 Airway Management

ANES 5401 Anatomy

ANES 5350 Introduction to Physiological Simulation

ANES 5301 Introduction to Physiology I

ANES 5101 Medical Terminology

ANES 6301 Orientation to Clinical Anesthesia

ANES 5201 Pharmacology for the Anesthesiologist Assistant I

Semester 2 - Spring

ANES 6201 Anesthesia Principles & Practice I

ANES 5302 Applied Physiology in Anesthesia I

ANES 5351 Case Based Simulation I

ANES 6302 Clinical Anesthesia Experience I

ANES 5102 Electrocardiophysiology (ECG)

ANES 5204 Pharmacology for the Anesthesiologist Assistant II

ANES 5203 Patient Monitoring and Instrumentation I

ANES 5103 Principles of Life Support

Semester 3 - Summer

ANES 6202 Anesthesia Principles & Practice II

ANES 5303 Applied Physiology in Anesthesia II

ANES 5250 Case Based Simulation II

ANES 6303 Clinical Anesthesia Experience II

ANES 5205 Patient Monitoring and Instrumentation II

Semester 4 - Fall

ANES 5206 Anesthesia Principles & Practice III

ANES 5207 Applied Physiology III

ANES 6801 Clinical Anesthesia Experience III

ANES 5150 Crisis Management Simulation

ANES 5105 Current Trends in Anesthesia I

ANES 5104 Ethics & Professionalism

Semester 5 - Spring

ANES 6101 Clinical Anesthesia Experience IV

ANES 5106 Anesthesia Practice Review I

ANES 5151 Subspecialty Case Based Simulation

Semester 6 - Summer

ANES 5108 Anesthesia Practice Review II

ANES 5107 Board Preparation

ANES 5152 Subspecialty Case Based Simulation II

ANES 6102 Clinical Anesthesia Experience V

Semester 7 - Fall

ANES 5109 Anesthesia Practice Review III

ANES 6103 Clinical Anesthesia Experience VI

ANES 5153 Subspecialty Case Based Simulation III

ANES 6104 Sub-Specialty Elective

Case Logs

All students are required to keep an accurate daily log of clinical activities in the case log system. Students must enter case information within 48 hours of the encounter with the patient. Students will meet with their faculty advisor each semester to review the cases entered for the semester. A determination will be made whether the student is on track to meet the minimum case numbers and clinical hours required for graduation.

Students are required to complete the minimum clinical standards, as listed below, by the end of
the third year to be recommended for graduation. Students who have not satisfactorily
completed the minimum clinical standards will face delayed graduation and may be required to complete one or more semesters of clinical remediation to be recommended for graduation.

Grading System

Didactics Courses

Didactics courses will follow a traditional letter grade (A, B+, B, C+, C, D, and F) and are calculated into the Grade Point Average (GPA). GPA is the sum of earned grade points divided by the sum of credit hours passed and failed. Students receive exam grades following each exam and course grades at the end of each semester. Students must pass all courses each year to progress to the next year.

The corresponding grading scale is as follows:

Grading Type	Grading Component
'A' Letter Grade = 4.00 Grade Points Earned	90 - 100 Numeric Average Range
'B+' Letter Grade = 3.33 Grade Points Earned	85 - 89.99 Numeric Average Range
'B' Letter Grade = 3.00 Grade Points Earned	80 - 84.99 Numeric Average Range
'C+' Letter Grade = 2.33 Grade Points Earned	75 - 79.99 Numeric Average Range

'D' Letter Grade = 1.00 Grade Points Earned	65 - 69.99 Numeric Average Range
'F' Letter Grade = 0.00 Grade Points Earned	< 65 Numeric Average Range

The grade point average (GPA) is the sum of earned grade points divided by the sum of credit hours passed and failed. Students receive exam grades following each exam and course grades at the end of each semester. Students must pass all courses each year to progress to the next year.

Clinical Performance:

Clinical performance is evaluated by preceptor evaluations of anesthesiologist assistant students on a scale from 1 to 5 (exceptional) that are averaged and calculated into the letter grade as seen below for the following courses: ANES 6102, 6303, 6803, 6101, 6102, and 6103 (Clinical Anesthesia Experience I – VI).

These courses will follow the letter grades (A, B+, B, C+, C, D, and F) as indicated below:

Grading Type	Grading Component
'A' Letter Grade = 4.00 Grade Points Earned	4.00 - 5.00 Clinical Evaluation Score
'B+' Letter Grade = 3.33 Grade Points Earned	3.50 - 3.99 Clinical Evaluation Score
'B' Letter Grade = 3.00 Grade Points Earned	3.00 - 3.49 Clinical Evaluation Score
'C+' Letter Grade = 2.33 Grade Points Earned	2.75 - 2.99 Clinical Evaluation Score
'D' Letter Grade = 1.00 Grade Points Earned	2.00 - 2.49 Clinical Evaluation Score
'F' Letter Grade = 0.00 Grade Points Earned	< 2.00 Clinical Evaluation Score

Clinical performance is assessed based on knowledge of practice, patient care, communication skills, professionalism, interdisciplinary/inter-professional communication, attendance, case-log documentation, and demonstration of ethical practice.

Criteria for Advancement Through the MSA Program

Successful completion of each MSA Program year (SAA1-SAA2) will require:

1. Cumulative GPA greater than or equal to 3.00 for the given year
    - First-year students will repeat the first-year year curriculum (semesters 1, 2, & 3) if the cumulative GPA of semesters 1, 2, & 3 is below 3.0.
    - Second-year students will repeat the second-year curriculum (semesters 4, 5, & 6) if the cumulative GPA of semesters 4, 5, & 6 is below 3.0.
2. Satisfactory clinical performance as determined by the Program and Clinical faculty
3. Satisfactory professionalism standing as determined by the Program and Clinical faculty
4. Good standing financial obligations to the University

Students who fail to meet any of the requirements listed above will not progress to the next Program Year.

MSA Graduation Requirements

The MSA Program requires that all the following criteria are met:

1. Students must achieve and maintain a cumulative grade point average (GPA) of 3.00 or above
2. Students must finish the program of study in 4 years or less. This is inclusive of leaves of absence.
3. Students must be found suitable for clinical practice. Suitability for clinical practice is assessed through overall performance, including didactic course GPA (numerically graded with minimum passing score for each course determined by each course instructor) and clinical course performance (graded by evaluations from faculty, comprehensive exams and professionalism scoring). For more information, please refer to the MSA Student Handbook.
4. Student must have completed degree requirements of 100 semester credit hours, a minimum of 650 anesthetic cases, and a minimum of 2,500 clinical hours.

MSA Student Grievance Policy

Concerns that cannot be resolved through informal grievance procedures may be addressed through the filing of a formal grievance. Following the unsatisfactory resolution of an informal grievance, the student may file a formal written grievance to the MSA Program Director within seven (7) calendar days of the failed resolution. The Program Director will meet with appropriate parties (students, Assistant Program Director(s), Didactic Director, Medical Director(s)) to seek a resolution that is in the best interest of the individual student, student body, and the MSA Program as a whole. The Program Director may resolve the issue or invoke a MSA P&P Committee hearing to assist in finding an appropriate resolution. The Program Director will respond, in writing, within ten (10) working days of receiving the written complaint. The student will be notified in writing of the resolution, as will any other pertinent parties. The student has the right to formally appeal the decision of the MSA P&P Committee or the Program Director, in writing, to the Chair of the Department of Anesthesiology, Critical Care and Pain Medicine within seven (7) calendar days of receiving the appealed decision. The Chair of the Department of Anesthesiology will make a final decision. If the student feels this resolution does not follow university policy or was made with bias, the student has seven (7) calendar days from the date of receiving the decision from the Chair of the Department of Anesthesiology to formally write to the Dean of the McGovern Medical School. In this case, the Dean will review the written grievance and previous recommended resolutions and decide on the final resolution of the matter. The Dean will respond, in writing, within ten (10) working days of receiving the appeal request. The student will be notified, in writing, of the resolution, as will any other pertinent parties. The decision of the Dean is final.

Students are obligated to make every attempt to resolve grievances with the faculty member prior to filing a formal grievance request. If the student and the faculty cannot resolve the matter, the student should follow the grievance procedure as outlined above.

For more information, please refer to HOOP Policy 220 Student Complaints (https://www.uth.edu/hoop/policy.htm?id=2553c1c1-c490-4ad0-a570-e263e12e0dff).

Masters in Clinical Research (MSCR)

Program Description

The Master of Science in Clinical Research (MSCR) Degree Program at McGovern Medical School is a focused, flexible, and affordable program that trains clinical investigators to design and conduct exemplary quality patient-oriented research. This 36-credit degree program is designed to accommodate clinicians' busy schedules, with most courses offered on Wednesday afternoons or evenings. The program is largely comprised of live, in-person small group classes; this is not an online or distance-learning program. The time required for degree completion depends on the amount of time and effort a student devotes to the program, and a minimum of three years is typical for most students with concurrent clinical obligations. The program includes graduate-level coursework in epidemiology, biostatistics, clinical trial design, health care economics, and clinical guideline development. Students in the MSCR program complete a series of courses, practica, as well as a thesis research project.

Students will receive training in planning and executing clinical research designs as well as analyzing and disseminating research results.

Upon completion of the program, graduates will be able to:

1. Apply the concepts of evidence-based medicine and health services research to clinical practice at the local, state, regional, and national levels using practice guidelines (informed by a literature review and critical evidence appraisal) as instruments of evidence-based practice.
2. Postulate a sound new research question and design a clinical research study to address this question using the most unbiased feasible design.
3. Perform statistical analysis and interpret the results in a manner that is consistent with the assumptions of the analytic models and the study design.

MSCR Admission Requirements

This program is primarily intended for those with a graduate healthcare-related professional degree (e.g., MD, DO, PharmD) who currently hold a full-time faculty or fellowship appointment at an academic institution. Applicants should have a commitment to pursue a career as an independent clinical investigator. The rapid pace of the curriculum assumes a working knowledge of clinical medicine and an excellent scholastic aptitude. Successful applicants must have the necessary departmental support, including protected time and an established relationship with a research mentor who should have a track record of external research funding. All applicants are required to be engaged in or preparing to conduct clinical research.

General admission requirements for the MSCR program are below:

1. Degree requirement: (one of the following degrees is required)
   a. Advanced degree in health-related field (MD, DO, PhD in a related field, DDS or DMD, RPh or PharmD)
   b. Bachelor's or master's degree from an accredited institution of higher education, with a G.P.A. of greater than 3.0 and previous work experience in a health-related field, such as nursing, psychology, dietetics, etc.
2. Pre-requisite training: At least one year of the Clinical Research Curriculum (CRC) is strongly encouraged before applying to the MSCR program. The CRC is an introductory level series of courses open to all clinical researchers at McGovern Medical School, other Texas Medical Center institutions, and CTSA-affiliated institutions. More information on the CRC can be found here (https://med.uth.edu/crebm/clinical-research-education/clinical-research-curriculum/).

Application and Admission Procedures

Applications should be submitted online to the UTHealth Houston Office of the Registrar (https://www.uth.edu/registrar/applicants/application-forms.htm)

Completed applications, including letters of reference and transcripts, must be received by June 15 for matriculation in the fall semester.

The following are required:

1. Completed application form with a curriculum vitae and personal statement. The personal statement is a narrative describing the applicant's motivation for applying to the MSCR program, including the applicant's career goals and how the MSCR degree program will support these goals, and a proposed timeline for completion of the program.
2. Letters of reference (2). Two professional letters of reference on official letterhead from at least two individuals who are qualified to evaluate the applicant's academic or professional performance, as well as ability and motivation to complete the program. If an applicant will be employed or in a training program while enrolled in the program, a letter of support/recommendation will be required from the applicant's supervisor to verify the supervisor's commitment to providing the applicant with adequate "protected" time to complete the program.
3. Official transcripts covering all periods of post-secondary enrollment in accredited institutions of higher education. Applicants should request the institution to send official (original) transcripts directly to the Office of the Registrar. Graduates of Texas colleges and universities should request that transcripts be sent in electronic format. Copies of official transcripts sent by the applicant are not considered. Transcripts must include both grades and credit hours.
4. Applicants who are nationals of countries where English is not the parent language are required to submit scores from the Test of English as Foreign Language (TOEFL). See application form for current requirements and exceptions.

Prospective applicants can contact the MSCR Program Manager, Deborah "Deb" Garcia (deborah.garcia@uth.tmc.edu) for further questions about the application process. The application must be completed by June 15 for admission to the class matriculating in August of the same year.

Address application inquiries to:

Office of the Registrar
The University of Texas Health Science Center at Houston

P.O. Box 20036
Houston, Texas 77225-0036
713-500-3388

Once an application has been submitted, the applicant will receive a PIN number from the Office of the Registrar. The status of the application, transcripts, and letters of reference can be checked online at myUTH (https://my.uth.tmc.edu) using this PIN number.

Factors Considered in Admissions Decisions

The Admissions Committee of the MSCR Program will review all completed applications. The committee considers the following factors in evaluating applicants for admission:

- Previous research experience, accomplishments and publications, enrollment in research-related courses, and current involvement in research projects
- Expressed commitment to a career involving biomedical research
- Grade point average from previous transcripts
- Career goals
- Previous graduate-level study
- Work experience in a health-related field
- Honors and awards for academic achievement

Preference will be given to candidates who have an established committed departmental mentor. Plans for departmental mentoring must be established prior to enrollment in the program. Candidates from institutions outside of UTHealth Houston will be considered for admission if arrangements can be made for appropriate departmental and methodological mentorship from the applicant's own clinical/academic institution.

Non-degree status

Current Clinical Research Curriculum students may alternatively apply for non-degree status. Non-degree status allows enrollment in MS-level Advanced Courses (tuition costs apply), however students are not assigned mentors and do not complete practica or thesis requirements. Non-degree applications are accepted twice a year (applications due June 15 and October 15) with the same application requirements as the MSCR degree program. Accepted non-degree students may begin advanced coursework in the next semester. Non-degree students may apply for a change to Degree Status in a subsequent June admission cycle, however there is no guarantee of eventual acceptance into the MS Degree Program. Non-degree status will expire after a two-year period of no activity in the program.

Current degree students may request a change in enrollment status to non-degree student. Reinstatement in the degree program will be considered at the discretion of the Admissions Committee.

Tuition and fees

For the 2024-2025 year, the MSCR tuition will be $96 per semester credit hour for Texas residents. The non-resident tuition will be $506 per semester credit hour. Tuition and fees are subject to change according to the actions of the Texas Legislature or the UT System Board of Regents and are effective when enacted.

The Texas Legislature does not set the specific amount for any particular student fee. Student fees are authorized by state statute; the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

Please refer to the Bursar's Office website (https://www.uth.edu/bursars/student-resources/tuition-fees/) for the current Tuition and Fee Schedules. This site reflects current information regarding tuition and fee exceptions and/or waivers, Veterans education benefits, and the Policy for Texas Resident Tuition.

Degree Requirements

To be eligible for graduation with an MSCR degree a student must:

- complete a minimum of 36 credit hours of coursework within five years of admission to the program
- have a minimum cumulative 3.0 grade point average
- satisfactorily complete three practica
  a. Institutional Review Board
  b. Scientific Presentation
  c. Scientific Writing
- satisfactorily complete thesis project(s) that collectively demonstrate competence in each of these areas:
  a. Apply the concepts of evidence-based medicine and health services research to clinical practice at the local, state, regional, and national levels using practice guidelines (informed by a literature review and critical evidence appraisal) as instruments of evidence-based practice.
  b. Postulate a sound new research question and design a clinical research study to address this question using the most unbiased feasible design.
  c. Perform statistical analysis and interpret the results in a manner that is consistent with the assumptions of the analytic models and the study design,
- be enrolled during the term of graduation/program completion
- pay the required graduation fee of $150

Academic Expectations

Transfer of Credit

A student may be given up to 18 hours of credit for formal coursework completed previously in a comparable program. Students who transfer into the program must meet the same overall degree requirements as students who undergo all of their training at UTHealth Houston.

Petition for Course Equivalency

A student wishing to receive credit for courses taken outside the MS in Clinical Research Program at UTHealth Houston may submit a Petition for Equivalency form, available by email from the Program Coordinator. This includes the Clinical Research Curriculum courses and courses taken at other institutions that are similar in content to courses offered for the MS in Clinical Research Program. The student must complete the form and obtain the approval of his/her program advisor. For courses taken outside McGovern Medical School, the student must supply the required documentation about course requirements for approval of credit hours by the Curriculum Committee.

Advisory Committee

Each student in the program will work jointly with two different advisors —a program advisor/mentor who provides methodological expertise and a departmental advisor/mentor from their own basic or clinical science

department or institution who provides expertise in the participant's specific area of clinical research. For fellows and other trainees, the training program director will also serve as a member of the Advisory committee. At the end of each semester, the student will meet with their Advisory Committee to review academic progress, course selection, and thesis development.

Satisfactory Academic Progress

Individual faculty members are responsible for identifying students with academic difficulty and determining whether the deficiency can be remediated. Satisfactory academic progress is defined for each student by following the degree plan for that student. Each student's Advisory Committee will review the student's course work to assist him/her in achieving the maximum potential and in assessing progress toward academic goals. Students are expected to complete the program within five years, unless extraordinary circumstances warrant an extension. At least one thesis component must be completed each academic year after admission to the MS Degree Program. Overall consideration of performance will be used by the Advisory Committee to determine which students have progressed satisfactorily and which students should be placed on academic probation.

Academic Probation and Dismissal

A student will be placed on academic probation by the program director following the completion of the semester in which any of the following occur:

1. a second grade of F or WF is earned,
2. the student fails to meet with their Advisory Committee within a 12-month period, or
3. the student fails to make satisfactory progress toward the degree (see above).

Once on probation, the student will be re-evaluated at least once each semester by his/her Advisory Committee. A student placed on probation for failing grades will be taken off probation when he/she has passed at least two courses and has passed the same or an equivalent course for any required courses that were failed. The student will be given one year to satisfy these requirements or up to two years if the failed required course is offered only every other year. A student placed on probation for failing to make satisfactory progress and/or meet with his/her Advisory Committee will be taken off probation when he/she successfully completes at least four credit hours over the next year. If the academic probation is not removed within the stated remediation time period, the student will be dismissed by the Program Director.

If the student wishes to request a reconsideration of the dismissal, a written request to the Student Evaluations and Promotions Committee must be submitted within seven calendar days of receipt of the dismissal letter. The Student Evaluations and Promotions Committee will review the request and render its recommendation in writing to the Dean. The student will be notified in writing of the Dean's decision within five working days of the committee's recommendation. The determination of the Dean is final.

Academic Conflict Resolution

Individual faculty members retain primary responsibility for grading and evaluations. The faculty member's judgment is final unless compelling evidence suggests discrimination, differential treatment, or mistake. In attempting to resolve any student grievance regarding academic matters, it is the obligation of the student first to make a serious effort to resolve the matter with the faculty member with whom the grievance originated. If the student and faculty member cannot resolve the matter, the student may file a formal written grievance to the MSCR Program Director within seven (7) calendar days of the failed resolution. The Program Director will meet with appropriate parties (students, course director, advisory committee) to seek a resolution that is in the best interest of the individual student, student body, and the MSCR Program as a whole. If the conflict is with the Program Director, then the grievance will be submitted to the Director of the Institute for Clinical Research and Learning Health Care. The Program Director will respond, in writing, within ten (10) working days of receiving the written complaint. The student will be notified in writing of the resolution, as will any other pertinent parties. The student has the right to formally appeal the decision of the Program Director, in writing, to the Director or Co-Director of the Institute for Clinical Research and Learning Health Care.The Institute Director will make a final decision.If the student feels this resolution does not follow university policy or was made with bias, the student has seven (7) calendar days from the date of receiving the decision from Institute Director or Co-Director to formally write to the Dean of the McGovern Medical School. In this case, the Dean will review the written grievance and previous recommended resolutions and decide on the final resolution of the matter. The student will be notified, in writing, of the resolution, as will any other pertinent parties. The decision of the Dean is final.

Long-term Absences

Students who are unable to maintain active status may request a long-term absence of up to one year. If the absence lasts for more than one year, reinstatement will be considered at the discretion of the Admissions Committee. Any degree student who has not been granted a leave of absence and who fails to complete at least one degree requirement every academic year after enrollment (course, practicum, or thesis component) will be considered to have withdrawn from the program. Once withdrawn, a student who wishes to resume participation in the program must apply to be readmitted. Degree students may request a change in enrollment status to non-degree student. Reinstatement in the degree program will be considered at the discretion of the Admissions Committee. Non-degree status will expire after a two-year period of no activity in the program.

Grading policy

Advanced courses in the MS in Clinical Research Program are graded A, B, C, or F. An 'F' in a required course requires repetition of that course (or a course deemed equivalent by the student's advisors). Practica and thesis credit hours are graded pass (P) or fail (F). An incomplete (I) grade may be assigned at the discretion of the instructor when the course requirements have not been satisfied by the end of the semester. An incomplete grade will remain on the transcript until a final grade is assigned by the instructor. If an incomplete is not changed by the end of the following semester, it will be converted to an 'F.'

Criteria upon which grades are based are provided at the beginning of each course. Students may withdraw from a course through the last class day of the term. When a student withdraws from a course, a Withdrawn Passing (WP) or Withdrawn Failing (WF) grade will be recorded depending on the student's standing at the time of withdrawal. This WP or WF grade will remain on the transcript even if the course is repeated and passed.

Courses for the MS in Clinical Research Program

Code	Title	Hours
CLRS 5010	Advanced Biostatistics for Clin Investig	4
CLRS 5015	Using Rsrch to Infrm Hlth Cre Polcy&Prac	4
CLRS 5017	Advanced Clinical Research Design	4
CLRS 5020	Economic Evaluations in Clinical Research	4
CLRS 9994	Institutional Review Board Practicum	1
CLRS 9996	Scientific Writing Practicum	1
CLRS 9997	Scientific Presentation Practicum	1
CLRS 9998	Clinical Research Thesis	3
Electives (totaling 14 SCH) [1]		14
Total Hours		**36**

[1] See school website (https://med.uth.edu/crebm/clinical-research-education/ms-in-clinical-research/ms-in-clinical-research-curriculum/) for elective options.

MD Degree

Equal Access to McGovern Medical School's Educational Program

McGovern Medical School is committed to providing all students with opportunities to take full advantage of its educational and academic programs. MMS and UTHealth Houston recognize that students with documented disabilities may require reasonable accommodations in order to achieve this objective and/or meet the technical standards and essential functions. Any accommodation must allow the student to complete the medical degree program within six years of matriculation. An accommodation request may not be considered reasonable if it poses a direct threat to the health or safety of self and/or others, if making it requires a substantial modification in an essential element of the curriculum, if it lowers academic standards, or if it poses an undue administrative or financial burden.

If a student, with or without reasonable accommodation, cannot satisfy the technical standards/essential functions or if it is determined that the disability would interfere with patient or peer safety or otherwise impede their ability to complete the program and advance to graduation, residency training or licensure, then the student may be separated, discontinued or dismissed from the program.

Process: Candidates with questions regarding disability accommodations are encouraged to contact the McGovern Medical School Section 504 Coordinator (https://med.uth.edu/admissions/student-disability-ada-504-accommodations/) immediately to begin to address what types of accommodation may be considered. Admission to MMS is conditional on the candidate's having the ability to satisfy the technical standards, with or without reasonable accommodation, and results from a process that examines and values all of the skills, attitudes and attributes of each candidate on a case-by- case basis.

MD Student Development

Evaluation and Promotion

The official policies for evaluation of academic performance, promotion, grade grievance, and academic dismissal are outlined in the McGovern Medical School Policy on Student Advancement and Appeals on the McGovern Medical School website here (https://med.uth.edu/oep/policies/).

McGovern Medical School uses the following grade system: Honors, High Pass, Pass, Below Pass, or Fail. Grades and other information relative to a student's academic performance are transmitted to the Student Evaluation and Promotions Committee which, based upon an overall consideration of the student's grades, demonstrated knowledge, clinical performance, and suitability to practice medicine, decides whether a student should be promoted, continued with remedial work assigned, or dismissed. Any student whose active record indicates that he/she is not suitable to continue the study of medicine will be dismissed.

Students can be referred for evaluation and counseling for academic or personal concerns through the MMS Office of Admissions and Student Affairs. The Peer Tutoring Program is also available to all students at no charge.

Conduct and Discipline

Students are responsible for knowledge of and compliance with UTHealth Houston policies concerning student conduct and discipline as set forth in HOOP Policy 186, Student Conduct and Discipline (https://www.uth.edu/hoop/policy.htm?id=1448220), and the McGovern Medical School's Policy and Guidelines for the Evaluation and Promotions of Medical Students. Students may access the full HOOP online here (https://www.uth.edu/hoop/).

For information regarding student academic and behavioral issues, contact:
Margaret C. McNeese, MD
Vice Dean for Admissions and Student Affairs
McGovern Medical School 6431 Fannin, Suite G400
Houston, Texas 77030

Research Programs for Medical Students

Medical student research is an essential component of the overall mission of McGovern Medical School. The School's Medical Student Research Office (MSRO) offers students the necessary resources to successfully identify and pursue research opportunities. As part of its mission to promote student research, the MSRO administers a "Summer Research Program" that provides an intensive, hands-on, 10-week, 40 hours/week, research experience for medical students during the summer after their first year. The program fosters the development of scientific reasoning and other research skills.

For the Summer Research Program students work closely with faculty mentors of their choice on research projects organized individually for each student. At the end of the research project, students write an abstract on which they are the first author. These abstracts are published and posted on the program's website. In addition, the students develop a research poster that is presented at the annual Medical School Research Forum and Webber Prize Competition held in the fall. Students who complete the Program receive a certificate of completion and an acknowledgment letter in their permanent academic file, also known as, their Blue Book. Students may continue their research until graduation with their mentor. Visit the Summer Research Program website (https://med.uth.edu/oep/msro/msro-programs/srp/) for more information and application deadlines.

Students also can participate in the Scholarly Concentration Programs. All concentrations are thematic, interdisciplinary, longitudinal, and experiential, with guided faculty mentoring and structured group

seminars/courses/journal clubs, etc. Students in concentrations are expected to conduct an independent scholarly project. Fourth-year medical students also have the option to pursue a research-intensive fourth-year curriculum, the Academic Career Focus Track (ACFT). Students who successfully complete the scholarly concentration requirements or the ACFT may participate in the Spring Research Day and The John P. and Kathrine G. McGovern Medical Student Research Award Competition for graduating fourth-year students. The Spring Research Day typically takes place in early March (before Match Day). Entry to the competition is voluntary. Students completing the Scholarly Concentration Program receive a certificate of completion and recognition at graduation. Visit the Scholarly Concentration Programs website (https://med.uth.edu/oep/msro/msro-programs/scp/) for more details.

Applicants and MD program students interested in more extensive research training may apply to one of McGovern Medical School's dual degree programs. More information about the dual degree programs can be found under Programs of Study (p. 6) page of this catalog. Students can also refer to the McGovern Medical School dual degree program page found here (https://med.uth.edu/about-us/dual-degree-programs/).

Limited financial support is available for medical students pursuing research.

Contact the Medical Student Research Office (:MSRO@uth.tmc.edu) for interest in research and scholarship.

MD Expenses

Tuition and fees are subject to change and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular student fee. Student fees are authorized by state statute; the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

Please refer to the UTHealth Houston Student Financial Services website for the Cost of Attendance (https://www.uth.edu/sfs/cost-of-attendance.htm) (COA). The COA is an estimated cost of a student's educational and living expenses for the period of enrollment. It includes tuition, fees, books/supplies, room and board, and other expenses.

For current Tuition and Fee schedules please go the UTHealth Houston Office of the Bursar Student Resources page found here (https://www.uth.edu/bursars/student-resources/tuition-fees/).

Tuition and Fees (2024-2025)

Resident Tuition: $21,083.00
Non-Resident Tuition: $28,738.00

School Specific Fees
Laboratory: $35.00 (MS1/MS2 Years)
Foundations of Medical Science Course Fee (BSCI 1100; MS1 Year): $650.00
Malpractice Ins: $25.00
Computer Resource: $200.00
Technology Fee: $1,531.00
Library Resource: $125.00
Simulation and Skills Fee: $1,350.00
UWorld Fee (MS3 Year): $539.00 (MS3 Year)
National Achievement Exams Fee: $236.00/MS1 Year; $464.00/MS2 Year; $542.00/MS3 Year
Student Orientation Fee: $120.00/MS1 Year, $65.00/MS2 Year, $80.00/MS3 Year
Health Insurance[1]: $3,438[2]
Graduation[3]: $150.00

For 2024-2025 required fees assessed to all to all schools please visit the Bursar website here (https://www.uth.edu/bursars/student-resources/tuition-fees/required-fees/all-schools-2024-2025/).

1. Health insurance is required of all UTHealth Houston students. If students have a health insurance policy, they may provide proof of comparable insurance to Auxiliary Enterprises no later than the 12th class to have this charge waived. Details on the insurance plan are available through the Auxiliary Enterprise Office.
2. The 4th year Class is charged $4012 to cover 14 months of Health Insurance. The months of May and June are added to allow the time between the end of the 4th year and the beginning of their residency.
3. A graduation fee of $150 payable at registration for the final academic term is required of all students. This fee does not include regalia rental.

Through reciprocal agreements, students at other institutions of The University of Texas System, as well as graduate students from Rice University, Baylor College of Medicine, Texas Woman's University, and the University of Houston, may take some graduate courses for credit at McGovern Medical School, subject to the approval of the instructor. In addition, McGovern Medical School medical students may take some courses for credit at any of the above institutions. Mechanism for payment of tuition or registration fees vary according to the individual institution. Consult with that Registrar's Office for specific details.

Scholarships

Scholarships are awarded based on need, merit, or a combination of both. Scholarships do not need to be repaid, but may have specific criteria for the recipient to remain eligible (i.e., grade point average, hometown, undergraduate university, high school, etc.). Competitive scholarships are reviewed in the same manner as all other scholarships. Students may apply online through the Office of Admissions and Students Affairs once each academic year.

Scholarship award decisions are made by the Scholarship Committee.

Books and Supplies

For the 2024-2025 curriculum, the cost of required textbooks and supplies averages $3,012.79 (excluding cost of computer) for the pre-clerkship curriculum and $2,010.43 for the clerkships and required advanced clinical experiences. Information regarding specific textbook requirements and costs may be found here (https://med.uth.edu/admissions/admissions/entering-class-checklist/).

Laptop Requirement

Information technology and informatics are integral parts of medical education and practice. In order to fully utilize information resources required by the faculty during your education, the school requires that all incoming medical students have laptop computers that meet specific minimal requirements.

The requirements for the current entering class are provided on the Office of Admissions and Student Affairs web site.

Disability Insurance

McGovern Medical School encourages students to consider whether or not they wish to purchase disability insurance. The Office of Admissions and Student Affairs has information regarding available plans.

Liability Insurance

Students are covered under The University of Texas System Professional Medical Liability Self-Insurance Plan with standard limits for medical students set at $25,000 per claim and $75,000 as the annual aggregate. Basic coverage is included for $25 a year as one of the required fees.

For students completing extramural electives in their fourth year may be required to purchase increased coverage if mandated by the hosting institution. Students can purchase increased limits to meet needs of up to $2,000,000 per claim and $5,000,000 aggregate.

Ethics

McGovern Medical School recognizes that in addition to intellectual capability and expert technical skills and knowledge, a good physician must have a solid and unassailable foundation and commitment to ethical behavior and principles. Patients and society at large expect and deserve no less. These principles are embedded in the life of the School and its faculty.

Because these principles are so important, students are asked to make an explicit commitment to them.

Ethical Pledge (Code of Professional Conduct)

Incoming students are asked to agree to and sign the following ethical pledge following their acceptance to McGovern Medical School.

- I acknowledge and accept the privileges and responsibilities given to me as a physician-in-training and dedicate myself to provide care to those in need.
- I will approach all aspects of my education with honesty and integrity, embracing opportunities to learn from patients, teachers, and colleagues.
- I will always maintain the highest standards of professional conduct.
- I will certify only that which I have personally verified, and I will neither receive nor give unauthorized assistance on examinations.
- I will value the knowledge of wisdom of the physicians who have preceded me.
- I will recognize my weaknesses and strengths and strive to develop those qualities that will earn the respect of my patients, my colleagues, my family, and myself.
- I will respect the humanity, rights, and decisions of all patients and will attend to them with compassion and without bias.
- I will maintain patient confidentiality and be tactful in my words and actions.
- I will value the diversity of patients' experiences, cultures, and beliefs because it enhances my ability to care for them and enriches my education.
- I will not forget that there is an art to medicine as well as a science and that warmth, sympathy, and understanding are integral to patient care.
- I will strive to earn the trust my patients place in me and the respect that society places upon my profession.
- I recognize the privileges afforded to me as a physician-in-training and promise not to abuse them.
- Even as a student, I have a responsibility to improve the standard of health in my community, to increase access to care for the underserved, and to advance medical knowledge.
- As I accept these new responsibilities, I will not forget the importance of my own health and well-being. I will continue to value my relations with those who have supported me in the past and those who will share in my future.
- Knowing my own limitations and those of medicine, I commit myself to a lifelong journey of learning how to cure, relieve pain, and comfort with humility and compassion.
- I make these promises solemnly, freely, and upon my honor.

White Coat Ceremony

Dr. Arnold P. Gold, a faculty member at Columbia University College of Physicians and Surgeons, initially conceived the White Coat Ceremony. The White Coat Ceremony marks students' initial entry into the medical profession. A White Coat Ceremony is typically held between the fall and spring semesters of the first year. Students are presented white coats, which symbolize their journey to becoming physicians. At the end of the ceremony, the students recite The Physician's Oath of Hippocrates and re-affirm the Ethical Pledge.

MD Academic Organization

USMLE Step 1

Students are required to sit for USMLE Step 1 prior to the start of the fourth-year coursework (Career Focus Track phase). A student who does not pass is required to retake the examination within 90 days of notification of failure. An extension to the 90-day deadline to retake the exam may be granted on application to the Office of Admissions and Student Affairs.

USMLE Step 2

Students are required to take USMLE Step 2 CK prior to graduation.

The Curriculum Committee is charged by the Dean to provide oversight of the medical education program, including the design, management, integration, evaluation, and enhancement of a coherent and coordinated medical curriculum.

Competencies and Medical Education Program Objectives

McGovern Medical School expects all of its students to demonstrate the following competencies prior to graduating with the M.D. degree.

1. **Patient Care and Clinical Skills** – Graduates must be able to provide patient-centered care that is compassionate, appropriate, and effective for the promotion of health and the evaluation and management of disease.
2. **Medical Knowledge** – Graduates must be able to demonstrate knowledge of established and evolving biomedical, clinical,

epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

3. **Interpretation of Medical Data/Practice-Based Learning and Improvement** – Graduates must be able to demonstrate the ability to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care based on constant self-evaluation and life-long learning.
4. **Interpersonal and Communication Skills** – Graduates must be able to demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals
5. **Professionalism** – Graduates must be able to demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. **Health Systems and Society**– Graduates must be able to 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.

The medical education program objectives are specified for each competency area and can be found here (https://med.uth.edu/oep/medical-education-2/core-competencies-and-educational-program-objectives-epos/).

Learning Resource Center

The Learning Resource Center (https://med.uth.edu/lrc/) (LRC) manages study spaces, liaises with faculty and students and provides information on innovative teaching and learning resources in support of the school's curricular offerings. As of August 2024, a floor to ceiling renovated space will give students reconfigured spaces to study individually and collaboratively. With 24/7 access, the LRC provides 250+ seating spaces, including over 110 study carrels/stations, 14 group study rooms and 2 fully equipped "clinic" rooms to practice physical exam skills. Onsite IT staff provides support to students on repair, maintenance and configuration their computer devices. In addition to a large facility in the medical school building, students have access to satellite facilities elsewhere in in the medical school building and at Lyndon B Johnson and Memorial Hermann hospitals. A 24/7 access to student lounges is also available at these sites. In collaboration with librarians from the Texas Medical Center Library, the LRC staff assists students with online search strategies and information literacy skills. The library also provides a comprehensive collection of print and digital resources, correlated to medical school's curricular offering.

MD Admissions

Admission to McGovern Medical School is determined by the Admissions Committee, which is composed of faculty members from both basic science and clinical departments.

For all medical schools of The University of Texas System, the Texas Legislature requires that 90% of the admitted class each year be Texas residents; therefore, no more than 10% of the entering class can be non-residents.

UTHealth Houston endeavors to foster an educational and working environment that provides equal opportunity to all members of the university community. To the extent provided by applicable law, no person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under, any program, or activity sponsored or conducted by UTHealth Houston on the basis of race, color, national origin, religion, sex, sexual orientation, age, veteran status, disability, genetic information, gender identity or expression or any other basis prohibited by law.

Any student or potential student who has a complaint regarding equal opportunity under this policy should contact the respective school's associate dean for student affairs, or the Equal Opportunity Advisor in the University Relations and Equal Opportunity (https://www.uth.edu/hr/department/equal-opportunity/) office.

The full policy can be found online in the UTHealth Houston Handbook of Operating Procedures (HOOP) Policy 183, Nondiscrimination, Anti-Harassment and Equal Opportunity (https://www.uth.edu/hoop/policy.htm?id=1448214).

Academic Prerequisites

Applicants must complete at least 90 undergraduate semester hours, including the prerequisite coursework listed below, at a regionally accredited United States or Canadian college or university. Preference is given to students who obtain a baccalaureate degree prior to admission to medical school. Graduate courses do not satisfy premedical requirements.

Prerequisite Coursework

English: a minimum of 6 semester hours of college English. Any college English course earned at an accredited institution of higher education that fulfills a general education English requirement of a baccalaureate degree will be accepted. Remedial or developmental courses or "English as a Second Language" courses are not accepted.

Biological Sciences: 14 semester hours (12 lecture hours plus 2 lab hours). One year may be completed by advanced placement. The other year must be completed in residence at a college and must include formal laboratory work. Biological science courses must be as required for science majors.

Inorganic Chemistry: 8 semester hours (6 lecture hours plus 2 lab hours). The courses should be for science majors, including the corresponding laboratory experience. Should include familiarity with analytic and volumetric techniques. Inorganic courses include general chemistry, physical chemistry and quantitative analysis.

Organic Chemistry: 8 semester hours (6 lecture hours plus 2 lab hours). The courses should be for science majors, including the corresponding laboratory experience.

Physics: 8 semester hours (6 lecture hours plus 2 lab hours). Physics courses must be as required for science majors and must include laboratory experience.

Prerequisite Coursework

Please refer to the Office of Admissions and Student Affairs for full details (https://med.uth.edu/admissions/why-mcgovern/requirements/).

Medical College Admission Test

The Medical College Admissions Test (MCAT) is required for admission. The exam should be taken within 5 years of applying to medical school and no later than the last September test date in the year of application submission (i.e. no later than September 30 of the year before you expect to begin medical school).

Evaluation of Applicants

McGovern Medical School, in conformity with the purpose assigned it by the Texas Legislature and its mission statement, selects the best qualified students for its entering class who demonstrate a potential to become competent and caring physicians and who will serve the identified needs of the State of Texas. The Admissions Committee considers the totality of each application and gives importance to the factors enumerated below.

1. Intellectual Capacity

Each student who is accepted must have the intellectual ability to successfully complete medical school and master the essentials of the practice of medicine. Considered are undergraduate and graduate record, standardized test scores, academic awards and honors (e.g. Phi Beta Kappa, National Merit, etc.), research accomplishments, degree of difficulty of undergraduate academic program, pre-professional evaluations, personal interview, and any other data submitted.

2. Interpersonal and Communication Skills

The practice of medicine demands a high level of interpersonal skills and a compassionate attitude. Ability to communicate is essential for these qualities. Considered are community or charitable service, e.g., volunteering to help the less fortunate; extracurricular activities and organizations; leadership positions; employment history; recognition for humanitarian service; awareness and direct knowledge of cultural elements as they may impact on health care; evidence of being well-written and well-spoken exemplified by standardized test scores in verbal abilities, the MCAT score on the written essay, statements made on the application or in the personal interview and any other relevant considerations which the students or his or her pre-professional advisors may present.

3. Breadth and Depth of Pre-medical Educational Experience

The modern practice of medicine requires a strong scientific background and also an ability to understand the complex non-scientific problems facing physicians and patients, e.g., ethical or socioeconomic problems. The bare completion of the pre-medical requirements is a base on which to build further knowledge and prepare physicians for a lifetime of study so that they will remain the best possible practitioners of medicine. Considered are undergraduate core curriculum or course selection; participation in the intellectual life of the university, e.g., belonging to discipline organizations — chemistry or philosophy club; extent of reading; papers written or published; knowledge displayed at the interview; Honors Program; pre-professional evaluations; any other relevant indications of scholarly accomplishment.

4. Potential for Service to the State of Texas

A state medical school must have as a primary concern producing practitioners who will serve that state in residency; applicant's goals for the future; size and location of hometown and whether applicant resides in a Health Professions Shortage Area; potential for future provision of health services to under-served areas or needed specialties; linguistic skills appropriate to the Health Profession Shortage Area the applicant wishes to serve.

5. Motivation

A physician must be prepared for a lifetime of dedicated intense service to her or his patients. This requires a high level of selfless motivation. Considered are success in overcoming adverse economic or educational conditions; employment history occurring simultaneously with undergraduate academic preparation; participation in activities requiring time management skills, e.g., varsity athletes, campus symphony, etc.; constantly improving undergraduate record; veteran status; experience in health-related activities.

6. Integrity

A physician, because of the public trust given to members of the medical profession, must have qualities of integrity beyond reproach. Considered are pre-professional evaluations; any academic integrity violation; conduct of a crime; any other relevant background relating either positively or negatively to applicant's standard of integrity (e.g. Honorable Discharge or Discharge under Honorable Conditions).

7. Technical Standards and Essential Functions

Essential abilities and characteristics required for completion of the MD degree consist of certain minimum physical and cognitive abilities and sufficient mental and emotional stability to assure that accepted students must meet certain standards of capability (with or without reasonable accommodations) for matriculation, continued enrollment, and graduation with the MD degree. McGovern Medical School (MMS) intends for its graduates to become competent and compassionate physicians who are capable of entering residency training (graduate medical education) and meeting all requirements for medical licensure and who will serve the identified needs of the State of Texas. The following abilities and characteristics are defined as technical standards, which, in conjunction with academic standards established by the faculty, are requirements for admission, promotion, and graduation. Delineation of technical standards is required for the accreditation of U.S. medical schools by the Liaison Committee on Medical Education. Although these standards serve to delineate the necessary physical and mental abilities of all candidates, they are not intended to deter any candidate for whom reasonable accommodation will allow the fulfillment of the complete curriculum.

- **Observation**: Candidates must have the skills to be able to accurately obtain information from demonstrations and patient examinations in order to gather patient data (e.g., observe a patient's gait, appearance, posture, etc.). The skills necessitate the use of a sense of vision, hearing, and somatic sensation or a functional equivalent.
- **Communication**: Candidates must be able to communicate effectively with faculty, colleagues, staff, patients, their families, and members of the health care team. They must be able to obtain a medical history in a timely fashion, interpret non-verbal information, and establish therapeutic rapport with patients. Candidates must be able to read and record information accurately and clearly in a healthcare setting.
- **Motor Function**: Candidates must possess the capacity to perform physical examinations and diagnostic maneuvers. They must be able to respond to clinical situations in a timely and efficient manner while providing general and emergency care that are reasonably required of physicians. These activities require some physical mobility, coordination of both gross and fine motor neuromuscular functions, and balance and equilibrium. They must be able to adhere to universal precaution measures and meet safety standards applicable to inpatient and outpatient settings and other clinical activities.
- **Intellectual-Conceptual, Integrative and Quantitative Abilities**: Candidates must be able to assimilate detailed and complex information presented in both didactic and clinical coursework, and engage in problem solving. They must be able to learn through a variety of modalities including, but not limited to, classroom

instruction, small group and collaborative activities, problem-based learning groups, individual study, preparation and presentation of reports, simulations, and use of computer technology. Candidates are expected to measure, calculate, reason, analyze, synthesize, and transmit information across modalities. In addition, candidates must be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

- **Behavioral and Social Attributes**: Candidates must demonstrate the maturity and emotional stability required for full use of their intellectual abilities. This includes, but is not limited to, accepting the responsibility of learning, exercising good judgment, and promptly completing all responsibilities associated with the diagnosis and care of patients. **Candidates are expected to exhibit integrity, honesty, professionalism, compassion, and display a spirit of cooperation and teamwork.** They must understand and abide by the legal and ethical aspects of the practice of medicine and function within both the law and ethical standards of the medical profession. Candidates must be able to work effectively, respectfully and professionally as a part of the healthcare team, and to interact with patients, their families, health care professionals, colleagues, faculty, and staff in a courteous, professional, and respectful manner. Candidates are expected to contribute to collaborative, constructive learning environments; accept constructive feedback from others; and take personal responsibility for making appropriate positive changes. They must be able to tolerate physically taxing workloads and long work hours, to function effectively under stress, and to display flexibility and adaptability to changing environments. They must be capable of regular, reliable and punctual attendance at classes and in regard to their clinical responsibilities.
- **Ethical Standards**: Candidates must meet the legal standards to be licensed to practice medicine. As such, candidates for admission must acknowledge and provide written explanation of any felony offense or disciplinary action taken against them prior to matriculation to McGovern Medical School. In addition, should the student be convicted of any felony offense while in medical school, they agree to immediately, but within 5 business days, notify the Vice Dean of Admissions and Student Affairs or designee as to the nature of the conviction. Failure to disclose prior or new offenses can lead to disciplinary action by MMS that may include dismissal.

Application Procedure

All applicants to McGovern Medical School must complete the following:

A **primary** application

- Applicants to the MD program must apply through the Texas Medical and Dental Schools Application Service (TMDSAS).
  - Applications for entry are typically accepted between May 1 and November 1 of the year preceding matriculation.
  - Applicants should contact TMDSAS for the most current information.
  - Application information is available on TMDSAS's website (https://www.tmdsas.com)

  Mailing address:
  Texas Medical and Dental Schools Application Service
  P.O. Box 2175
  Austin, Texas 78768
  512-499-4785

- Those applying to the MD/PhD dual degree program must complete the American Medical College Application Service (AMCAS) Application (https://students-residents.aamc.org/preparing-medical-school/preparing-medical-school/). The application can be accessed here (https://students-residents.aamc.org/preparing-medical-school/preparing-medical-school/).

A **secondary** application

- A McGovern Medical School Secondary Application is required of all applicants.
- Candidates will receive an email invitation from our school containing the link and instructions to complete our secondary application after we have received their complete application from TMDSAS. Please allow for processing time by TMDSAS (https://www.tmdsas.com).

A **CASPer Test** score

- All applicants applying to McGovern Medical School are required to complete an online assessment, Computer-Based Assessment for Sampling Personal Characteristics (CASPer), to assist in our selection process.
  - Applicants must go to takealtus.com to sign up for the Medicine test (CSP-10111 – U.S. Medicine), under your specific country (USA), and reserve a test using your TMDSAS ID and a piece of government-issued photo ID.

Once applications are processed by TMDSAS, they are forwarded to McGovern Medical School, where they are reviewed and evaluated by the Admissions Committee. The same criteria for evaluation are applied to all candidates.

After receiving an offer of acceptance, applicants are required to indicate their acceptance decision online within two weeks of notification. An applicant who later decides to accept a position at another institution should give prompt notice of withdrawal to McGovern Medical School.

McGovern Medical School recognizes the procedures and deadlines recommended by the Association of American Medical Colleges and the American Medical Colleges Application Services.

Entering medical students are required to consent to and pay for a criminal background check by an entity designated by McGovern Medical School. Admission is expressly contingent upon successful completion, review, and approval of the content of the criminal background check. The criminal background process will be repeated before the student enters the clinical rotations.

Curriculum

The basic four-year program outlined below is required for the MD degree. The curriculum is organized into three phases: pre-clerkship, clerkship, and the career focus tracks. Variations and adjustments may be made as the Curriculum Committee deems necessary.

Pre-clerkship Phase

Year 1/Fall Semester/20 instructional weeks

BSCI 1100 Foundations of Medical Science P/F

The purpose of this module is to provide students with the fundamentals necessary to study human disease at an advanced level. Students will learn the basic structure and function of major organs at the same time as they practice the related physical exam and clinical skills in Doctoring. In addition, students will learn the basic biochemical, cellular, and physiological mechanisms that underlie the major classes of disease.
Pass/Fail Course fee: $650.00

BSCI 1101 Doctoring 1: History and Physical Exam P/F
This course introduces the student to the basic clinical skills of interviewing a patient and conducting a comprehensive medical history. Students learn to perform a normal physical examination on a healthy adult and document patient encounters (comprehensive history and physical examination) in an organized, accurate manner. The student integrates their own experiences during the course with longitudinal theme content to illustrate ways in which a physician communicates respect, compassion, and empathy. The student applies knowledge obtained from the longitudinal themes including the treatment of special patient populations (geriatric, pediatric etc.) and they will have specific training in the interview of the psychiatric patient. Pass/Fail

Year 1/Spring Semester/18 instructional weeks

BSCI 1200 Hematology and Introduction to Pathology
The Hematology and Introduction to Pathology (HIP) module begins with an introduction to basic principles underlying disease: cell injury, adaptation, cell death and the effects that these processes have on tissues and organs. This is followed by an introduction to neoplasia. The second portion of the HIP module focuses on hematologic disorders, including anemias, coagulation disorders, and thrombotic disorders and how these conditions are treated. Reactive white blood cell disorders and hematologic malignancies will also be presented. Fail Thru Honors(MED)

BSCI 1201 Cardiovascular System
The Cardiovascular Module focuses on expanding the concepts presented in Foundations and developing a knowledge base in pathology, pharmacology and clinical skills associated with the heart and vascular system. The emphasis is on management of cardiovascular disease including hypertension, myocardial infarction, congestive heart failure, arrhythmias, and both congenital and acquired cardiovascular defects. The concepts presented in this module are linked those presented during the subsequent pulmonary and renal modules to emphasize the tight integration of these organ systems. Fail Thru Honors(MED)

BSCI 1202 Pulmonary System
This course begins with a review of pulmonary physiology from Foundations, followed by lung development and introduces radiologic imaging of lung structure. Students will study more in-depth lung physiology, and infectious and obstructive diseases of the lung in both adults and children. Students will be introduced to pathology, physiology, radiology and management of various acute critical conditions such as sepsis, acute respiratory distress syndrome and pulmonary embolism. Fail Thru Honors(MED)

BSCI 1203 Renal System
The Renal System Module covers the physiology defining normal renal function, clinical characteristics and pathology / pathophysiology of diseases of the kidney, and clinical disorders that result from failure of the kidney to function correctly. Students will learn to evaluate changes in fluid and electrolyte balance, mineral metabolism and glomerular function and renal clearance. The clinical implications of renal dysregulation/ dysfunction will be explored. Fail Thru Honors(MED)

BSCI 1204 Doctoring 2:Longitudinal Clinical Experience
During Doctoring 2 students begin to use the skills acquired in Doctoring 1. Students will interview, perform comprehensive and focused histories, and perform comprehensive physical exams to evaluate patients with diseases and symptoms. Students will document patient encounters in an organized manner. Student will be able to integrate clinical and basic science knowledge in order to: analyze basic laboratory results; develop a differential diagnosis; determine a basic science pathology and pathophysiology. The student will be able to integrate their own experiences during the course with longitudinal theme content to describe in depth at least two key lessons learned by attending an interprofessional patient safety meeting. Fail Thru Honors(MED)

Year 2/Fall Semester/20 instructional weeks

BSCI 2102 Doctoring 3: Longitudinal Clinical Experience
Doctoring 3 builds on skills gained from Doctoring 1 & 2 (interview, comprehensive/focused history, comprehensive/focused physical exam) to evaluate patients with diseases and symptoms, and document patient encounters in an organized, accurate manner. The student will be able to integrate clinical and basic science knowledge in order to: analyze basic laboratory results; develop a differential diagnosis; determine a basic science pathology and pathophysiology. The student will be able to integrate their own experiences during the course with longitudinal theme content to describe in depth at least two key lessons learned by attending an interprofessional patient safety meeting. Students are required to complete Basic Life Skills during Doctoring 3. This course spans the fall and spring semesters. Fail Thru Honors(MED)

BSCI 2100 Gastrointestinal System
The Gastrointestinal Module builds on the concepts learned in Foundations and other systems modules further enhancing their knowledge base in anatomy, biochemistry, microbiology, pharmacology, pathology, and clinical expertise pertaining to the field of gastroenterology, hepatology, and nutrition. This module uses a variety of pedagogies, including didactic lectures, problem-based learning (PBL) cases and independent study. Doctoring 3 concepts are integrated into this module. Fail Thru Honors(MED)

BSCI 2101 Nervous System & Behavior
The Nervous System and Behavior Module (NSB) is a team-taught course that provides an interdisciplinary approach to understanding the nervous system and behavior. The module consists of multi-modal learning approaches: lectures, clinical presentations with patients, laboratory sessions, clinical correlations, small group learning exercises, self-study exercises and problem based learning (PBL) cases. The ultimate objectives and goals of the NSB Module are to provide an understanding of the structure, function and dysfunction of the nervous system. Mental illness, behavioral dysfunction, and substance use issues are presented from a biopsychosocial perspective with both pharmacological and psychological interventions for treatment. Fail Thru Honors(MED)

BSCI 2103 Endocrine System
This module focuses on hypothalamic-pituitary axis, and normal growth patterns and growth disorders. Students will learn about diagnostic strategies and therapeutic options for various diseases including pituitary, metabolic, adrenal and thyroid disorders. Students will also be introduced to the diagnosis and pharmacologic management of osteoporosis. Fail Thru Honors(MED)

Year 2/Spring Semester/10 instructional weeks

BSCI 2201 Reproductive Systems
This module focuses on hormonal regulation of reproductive function, evaluation and management of infertility, and pregnancy, including preconception planning and the physiology of birth. Students will be introduced to the management of diabetes, hypertension, and infectious diseases during pregnancy. They will also learn about uterine, ovarian and breast pathology, as well as the genetics of breast and gynecologic malignancies. Students will also be introduced to breast imaging and the medical treatment of breast cancer, as well as management of sexually transmitted infections and male genitourinary pathology. Students will discuss sexual identity, sexual function, and the reproductive health of older adults. Fail Thru Honors(MED)

BSCI 2202 Musculoskeletal System & Derm
Students will learn about the morphology, pathophysiology, clinical presentations and management of common skin disorders. They will spend time in the dermatology clinic where they will have the opportunity to perform skin examinations, and learn about evaluating and diagnosing skin conditions. Students will also learn about various bone disorders and soft tissue malignancies, including pathophysiology, diagnosis, differential diagnosis, management and treatment. The approach to various forms of musculoskeletal pain, relevant physiology, and treatments will be explored. Fail Thru Honors(MED)

BSCI 2304 Transition to Clerkship (P/F)
This course prepares students for the clerkships. It is composed of required sessions including large group and skills sessions. Pass/Fail

Clerkship Phase

The Clerkship Phase occurs in Year 3 of the curriculum and consists of 48 instructional weeks. The required clerkships include family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and surgery, as well as a three-week elective and a one week geriatrics rotation. The goal of the clerkship phase is to provide broad exposure to the major disciplines of medicine. Specific descriptions are below. Geriatrics and the elective are pass/fail.

FAMD 3001 Family Medicine
The goal of this clerkship is to introduce students to the practice of Family Medicine by focusing on the clinical approach to the ambulatory primary care patient. Learning activities are planned to introduce the knowledge, attitudes, and skills that all physicians need when evaluating such a patient. Fail Thru Honors(MED)

GERI 3030 Geriatrics (Pass/Fail)
The geriatric and palliative third year rotation is designed to enable medical students to practice effectively in a clinical setting. Students will actively participate in the ongoing, daily care of older and/or palliative patients. Students will be paired with a geriatric or palliative preceptor who will provide clinical teaching and feedback. Throughout the clerkship, students will work with a variety of geriatric and/or palliative focused health professionals as part of the interprofessional team approach. Pass/Fail

INTM 3001 Medicine
The Internal Medicine Clerkship is an eight week rotation split into two four week blocks with the primary goal of introducing students to the evaluation and treatment of adults hospitalized with acute medical illness. Emphasis is placed on developing the skills to diagnose common clinical conditions and to recognize the clinical presentations of common diseases. Students will take patient histories, perform comprehensive physical exams, formulate problem lists with appropriate differential diagnoses, and document their findings in the electronic health record. Students will participate in the evaluation of a diversity of patients as part of a team of residents and students under the supervision of an internal medicine faculty member. Fail Thru Honors(MED)

NEUR 3000 Required Neurology
The Neurology clerkship is a four week rotation designed to educate students to take a relevant neurologic history, perform a comprehensive neurologic exam and based on their findings, effectively localize the lesion or determine the relevant neuroanatomical correlation. Students will have an opportunity to perform a neurologic exam on a standardized patient, encounter common neurologic emergencies in the simulation lab and repeatedly apply their knowledge in both inpatient and outpatient settings where they will encounter a broad range of neurologic diagnoses. Fail Thru Honors(MED)

OBGY 3001 Obstetrics/Gynecology
The Obstetrics and Gynecology clerkship covers pathophysiology of the female reproductive system. The basis for the diagnosis, management, and treatment of diseases specific to women are also covered. Students participate in patient encounters in the operating room, labor and delivery, emergency room, ambulatory clinics and on the hospital wards. Fail Thru Honors(MED)

PSYC 3001 Psychiatry
The Psychiatry clerkship is a six week rotation where students will participate in a multidisciplinary team to help provide care for patients with ongoing psychiatric illness. Students in this clerkship will build on their knowledge about behavioral sciences from their Doctoring, Nervous System and Behavior module, and Foundations of Medical Science experiences and will expand their interviewing, diagnostic and treatment skills for psychiatric disorders. Fail Thru Honors(MED)

SURG 3001 Surgery
The Surgery clerkship curriculum emphasizes the basic clinical skills required to solve common surgical problems. Students will be introduced to preoperative, postoperative, emergency, and ambulatory care of patients. By the completion of this clerkship, students will be expected to demonstrate an understanding of the pathophysiology of surgically treatable diseases and to have acquired sufficient knowledge and diagnostic skills to be able to recognize when a patient's condition might best be served by a surgical consultation. Students will also develop skills for the safe, effective, and efficient management of patients in the hospital and ambulatory setting. Fail Thru Honors(MED)

PED 3001 Pediatrics
Pediatrics is an eight week rotation, with four weeks spent on the inpatient unit at Children's Memorial Hermann Hospital or Memorial Hermann Hospital Sugarland and four weeks spent at one of several outpatient pediatric clinics scattered around Houston. Students will be exposed to the care of newborn infants, children with acute and chronic medical conditions, and well children coming in for their regular checkups. A major focus of the clerkship is injury and illness prevention. Students will become familiar with congenital and acquired conditions, as well as normal and abnormal patterns of development.

Elective

All students have the opportunity to explore a wide variety of specialties during their three week third year elective. During this time students may explore specific specialty interests, or they may work on a project associated with their Scholarly Concentration. Pass/Fail

Students will have four weeks of vacation during the Clerkship Phase.

Career Focus Tracks Phase

The Career Focus Tracks Phase occurs in Year 4 of the curriculum and consists of 42 instructional weeks. The goal of the Career Focus tracks is to provide students with clinical experience related to their intended career path, and to provide career mentoring and guidance. There are four tracks: primary care, acute care, academic career, and applied anatomy. During the tracks, all students complete three required advanced clinical selectives: ambulatory care, advanced patient care, and critical care. Additionally, the career focus tracks require six (6) four-week electives tailored to the students' interests.

Students will take the required Comprehensive Clinical Competency Examination (CCCE) at the beginning of Year 4.

Career Focus Tracks (CFT 4001)

Students choose one of four fourth year tracks, corresponding to their career goals. These tracks have specialty-related educational activities throughout the year.

- The Primary Care track is designed for students interested in Pediatrics, Internal Medicine, Family Medicine, and Psychiatry. Students planning on practicing OB/Gyn in the community might also select this track.
- The Acute Care track is primarily designed for students planning to go into Emergency Medicine or Anesthesia.
- The Applied Anatomy track is designed for students interested in surgical specialties, pathology, and radiology.
- Academic Career is a track for students who have embarked on a significant research project during medical school. They are permitted to devote additional elective time to research in order to ready their project for publication.

Ambulatory Medicine, required selective, 4 weeks

INTM 4000 Required Ambulatory Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

PED 4000 Required Ambulatory PED
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

OBGY 4000 Required Ambulatory OBGY
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

FAMD 4000 Required Ambulatory Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

EMER 4000 Required Emergency Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

RCC 4000 Required Critical Care
The required critical care rotation places fourth year students in an ICU setting, caring for the sickest patients in the hospital under the supervision of critical care fellows and faculty. Students are able to request from a list of ICUs, tailoring the experience to their intended career. There is a focus on procedures and ventilator management. Fail Thru Honors(MED)

APC 4000/4001 Advanced Patient Care
This rotation, commonly referred to as an "acting internship" or a "Sub-I" rotation, puts fourth year students on inpatient teams in the role of an intern, giving students primary responsibility for hospitalized patients under the direct supervision of a faculty member. Students will work on a call or shift system alongside the residents, taking admissions, practicing order entry, and working with case managers to ensure safe discharges. Students may choose a rotation that best fits their career plans from a wide variety of inpatient services.

RTR- 4000 Transition to Residency
This course includes specialty-based workshops, panel discussions, plenary speakers, and clinical skills practice sessions designed to prepare students for residency.

McGovern Medical School's fourth-year elective programs permit students to seek clinical opportunities away from Houston, at their own expense, ranging from family practice in rural communities to experiences in the most sophisticated settings requiring advanced technology. International clinical and research electives also are available. The School is fortunate regarding the wealth of clinical opportunities available to its students.

The fourth-year elective catalog is available online here (https://med.uth.edu/admissions/current-students/ms4/).

Fourteen weeks are available for vacation or additional electives. These weeks may be used during the required clerkships in special

circumstances and with prior approval of the Office of Admissions and Student Affairs.

MD/MBA

The challenges of managing healthcare entities demand leaders prepared in the business as well as the science of medicine. McGovern Medical School and the University of Houston Clear Lake College of Business (UHCL) offer a pathway dual degree program leading to a Doctor of Medicine (MD) degree and a Master of Business Administration (MBA). The requirements established for the program meet the general requirements of both degrees. The curricula are integrated along either a four-year or a five-year path to support student career objectives.

Students must meet the admission requirements of both schools to qualify for the MD/MBA program. Enrollment in the MBA program at UHCL is accomplished after acceptance to McGovern Medical School.

Any questions or requests for information or to begin the application process please contact Michael W. Bungo, MD, Director MD/MBA Program, at michael.w.bungo@uth.tmc.edu. Additional and more comprehensive information is available on the website (https://med.uth.edu/dualdegreeprograms/mdmba/). Sample schedules are detailed on that site and links are provided to obtain more updated information.

MD/MBE

McGovern Medical School and Rice University offer a dual degree pathway program leading to an MD degree and a Master of Bioengineering (MBE). The requirements established for the program meet the general requirements of both degrees. The curricula are integrated along a five-year path to support student career objectives.

Students must meet the admission requirements of both schools to qualify for the MD/MBE program. Applicants will submit applications to McGovern Medical School through the Texas Medical and Dental Schools Application Service ("TMDSAS") and Rice University independently according to the admission criteria, schedules and policies of each school. Rice's Application process and admission standards can be found in the General Announcements (https://ga.rice.edu/graduate-students/academic-policies-procedures/admission/).

Information regarding the MD/MBE program can be found here (https://med.uth.edu/dualdegreeprograms/).

MD/MPH

McGovern Medical School and the UTHealth Houston School of Public Health (UTSPH) offer a pathway dual degree program leading to an MD degree and a Master of Public Health (MPH). The requirements established for the program meet the general requirements of both degrees with 12 shared credit hours. The curricula are integrated along a four- or five-year path to support student career objectives.

Students must meet the admission requirements of both schools to qualify for the MD/MPH program. Acceptance to UTSPH is accomplished by applying during the regular application cycles – deadlines are April 1 (for Summer/Fall admission) and October 1 (for Spring admission). To be considered for the four-year path, students must begin classes the summer prior to their first year of medical school and apply by April 1.

Further information regarding the MD/MPH program can be found here (https://sph.uth.edu/degree-finder/?searchby=dp&did=7129b0c2-9aaa-46c1-a00c-7c2d666374e4&dept=ea81c064-92da-4551-8eda-2a65ca67e78c).

MD/MS

The MD/MS in biomedical informatics program examines both electronic health records systems and clinical decision support systems and methods for enhancing those tools. In today's fast-paced healthcare environment, the ability to harness AI and data analytics is becoming increasingly important. AI is advancing research, enabling the discovery of new treatments, and enhancing the accuracy of diagnoses. Students learn about data interpretation and knowledge management as they discover how to collect, process, and transform health and biomedical data into health information and knowledge. Dual degree students will understand core clinical informatics disciplines such as technology assessment, quality and outcome improvement, data analytics, and precision medicine.

Dual degree students will explore the wide range of applications of health and biomedical informatics to improve patient care. This dual degree will equip students with essential AI skills and tools. The program covers electronic health records, clinical decision support systems, data interpretation, technology assessment, quality improvement, data analytics, and precision medicine, preparing you to thrive in an evolving healthcare landscape.

Students must meet the admission requirements of both schools to qualify for the MD/MS program. Acceptance to SBMI is accomplished by applying during the regular application cycles – deadlines are July 1 (for Fall admission), November 1 (for Spring admission), and March 1 (for Summer admission).

MD/OMS

Both a four-year and six-year Advanced Education Program in Oral and Maxillofacial Surgery Residency are offered by UTHealth Houston. The six-year program is offered jointly through the UTHealth Houston School of Dentistry and McGovern Medical School. Each program prepares practitioners to treat diseases, injuries, and defects involving both the functional and aesthetic aspects of the hard and soft tissues of the oral and maxillofacial region. The basic prerequisites for both the four- and six-year programs are a DDS or DMD degree from an ADA accredited dental school.

The six-year program adopts a similar schedule to the four-year program, with the primary difference consisting of requirements for obtaining the MD degree. The first year is spent with the oral and maxillofacial surgery department. In the second, third, and fourth years, residents are enrolled in medical school, completing years two, three, and four of the medical school curriculum. During the fourth year of medical school, eight months are provided for the fulfillment of requirements related to the oral and maxillofacial surgery residency, such as rotations on neurosurgery, anesthesia, and other OMS services; during the fifth year, the residents will do the general surgery rotation. The remaining fifth and sixth years of the program are focused on completing the requirements for medical licensure in the State of Texas and oral and maxillofacial training. The OMS training includes rotations to six different hospitals as a senior surgical resident. Upon satisfactory completion of the six-year program, residents receive a certificate in oral and maxillofacial surgery and a MD degree.

Further information on the MD/OMS Program can be found here (https://dentistry.uth.edu/students/advanced-education/programs/#students-oms).

MD/PhD

The Medical Scientist Training Program (MSTP) is a dual degree MD/PhD program of McGovern Medical School and MD Anderson UTHealth Houston Graduate School of Biomedical Sciences. The program educates physician-scientists and draws from faculty expertise at UTHealth Houston and MD Anderson Cancer Center. This rich training environment—encompassing laboratories, hospitals, and clinics in the Texas Medical Center—ensures that our graduates are uniquely prepared for careers in translational research, where basic research is applied to improving patient care and promoting well-being, and observations/samples from patients are taken to the laboratory to improve understanding of disease mechanisms.

Students must meet the admissions requirements of McGovern Medical School to qualify for admission to the MSTP. The program is restricted in size and provides stipend and tuition support for MD/PhD candidates. For further information, visit the program's website (https://gsbs.uth.edu/mdphd/).

Those interested in the MSTP should inquire through the MMS Office of Admissions and Student Affairs. Application for admission to the MSTP may be made by submitting an application online through the American Medical College Application Service (AMCAS) and a mandatory secondary application here (https://gsbs.uth.edu/mdphd/apply-here/). Three (3) letters of recommendation (two (2) general letters and an additional letter from a research mentor) are also required and should be submitted through AMCAS. The application deadline is November 1st. For additional information you may also contact the MD/PhD administration at 713-500-6865 or by email at mstp@uth.tmc.edu.

Course Descriptions

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Anesthesia (ANES)

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ANES 5101 Medical Terminology (1 Credit)
Students will be taught common medical terminology, abbreviations and symbols used to describe procedures, techniques, imaging types, body systems, disease processes and procedures. Letter Graded

ANES 5102 Electrocardiophysiology (ECG) (1 Credit)
This course will teach peri-operative electrocardiophysiology monitoring and advanced cardiac life support. Students will learn how to interpret and monitor EKG rhythms and how to manage pathologic conditions that are detected. The course will also emphasize relevant anatomy, physiology, pharmacology and medical equipment. Letter Graded

ANES 5103 Principles of Life Support (1 Credit)
This course is designed to teach the principles of cardiopulmonary resuscitation for adults and children. Students will be taught the most up to date resuscitation guidelines and will become certified in Basic Life Support (BLS) CPR, Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). Letter Graded

ANES 5104 Ethics & Professionalism (1 Credit)
This course will explore the professionalism expectations and obligations of healthcare personnel with a focus on peri-operative specific concerns such as respect for patient privacy (HIPPA laws), resolving conflicts, conflict of interest, abuse of authority, sexual harassment, accountability, integrity, wellness/burnout prevention, substance abuse and mandatory reporting. Letter Graded

ANES 5105 Current Trends in Anesthesia I (1 Credit)
This course provides an overview of the most up to date literature, emerging technologies, novel treatment modalities, new mediations, and current research trends/findings. Students will also develop and deliver their Capstone Project Plan - a research project related to a current anesthesia trend. Letter Graded

ANES 5106 Anesthesia Practice Review I (1 Credit)
This course is designed to review the principles of anesthesia and prepare students for more complex topics that include autoimmune diseases, comatose states, hepatic anatomy and physiology, anticoagulants, clotting factors, and mechanical circulatory support. Letter Graded

ANES 5107 Board Preparation (1 Credit)
This course will review the key content covered in the National Certifying Exam for the Certification of Anesthesia Assistants. Letter Graded

ANES 5108 Anesthesia Practice Review II (1 Credit)
This course is designed to review the principles of shock states, vascular pathophysiology, hepatic disorders, transfusion reactions, and cardiovascular anesthesia. Letter Graded

ANES 5109 Anesthesia Practice Review III (1 Credit)
This course is designed to review the endocrine and neuroendocrine disorders, vasoactive agents, OB pharmacology and physiology, pediatric pharmacology and physiology, vitamins and supplements, otorhinolaryngology anesthesia, and laser surgery and safety. Letter Graded

ANES 5150 Crisis Management Simulation (1 Credit)
This is an advanced simulation course that simulates cardiac, respiratory, pediatric, neurologic, and obstetric emergencies that can potentially happen in the perioperative period. The focus of this course is to strengthen technical skills, clinical judgment, and inter-disciplinary team communication skills. Letter Graded

ANES 5151 Subspecialty Case Based Simulation (1 Credit)
Students will explore the management of complex sub-specialty (Pediatrics, Cardiac, OB, Neuro) cases in a simulated environment. Other topics include interventional radiology, craniectomies, BLS, ACLS, and PALS simulation, trauma surgery, TIPS, ESRD and diabetic management, AICD management, burn management, atrial-fibrillation management, and Video Assisted Thoracic Surgery (VATS). Letter Graded

ANES 5152 Subspecialty Case Based Simulation II (1 Credit)
Students will explore the management of complex sub-specialty cases in a simulated environment. Other topics include surgical site infection protocols, spinal and epidural placement, ultrasound guided IV and arterial line placement, MAC, and Non-Operating Room Anesthesia (NORA), and central line placement. Letter Graded

ANES 5153 Subspecialty Case Based Simulation III (1 Credit)
Students will assist and instruct the junior-level anesthesiologist assistant students who have matriculated this semester. Topics include anesthesia equipment and safety, pharmacology, airway management, induction, anesthetic maintenance, emergency, infection control, aseptic technique, communication, ethical and professional conduct, and patient safety and quality improvement. Letter Graded

ANES 5201 Pharmacology for the Anesthesiologist Assistant I (2 Credits)
The focus of this course is to instruct students on the pharmacokinetics and pharmacodynamics of the most commonly used medications in anesthesia. Letter Graded

ANES 5202 Airway Management (2 Credits)
This course will explore the anatomy, structure, function and management of both the adult and pediatric airways. Letter Graded

ANES 5203 Patient Monitoring and Instrumentation I (2 Credits)
This course will explore the ASA standard monitoring system, advanced patient monitoring and the associated equipment and technical skills necessary to monitor patient vital signs. Monitoring modalities taught include electrophysiology, non-invasive and invasive blood pressure monitoring, bispectral index, pulse oximetry (including the medications and clinical scenarios that can alter this reading), respiratory gas analysis, temperature monitoring, advanced hemodynamic monitoring, coagulation studies (TEG analysis), neuromuscular junction monitoring, transesophageal echocardiography, cerebrovascular testing, microbial analysis and urinalysis. Letter Graded

ANES 5204 Pharmacology for the Anesthesiologist Assistant II (2 Credits)
This is an advanced course focusing on the pharmacokinetics and pharmacodynamics of more complex and less common anesthetic agents. Letter Graded

ANES 5205 Patient Monitoring and Instrumentation II (2 Credits)
This is an advanced course focusing on how to provide anesthetic care for complex patients. The emphasis is on advanced patient monitoring techniques, equipement and modalities. Letter Graded

ANES 5206 Anesthesia Principles & Practice III (2 Credits)
This course will continue to guide anesthesiologist assistant students on how to develop the critical thinking skills and advanced technical skills necessary to be a well-rounded, competent mid-level provider capable of assisting the anesthesiologist and other members of the perioperative care team manage crisis care. Students will participate in specialty-based anesthesia management problem-based learning discussions in this course. Letter Graded

ANES 5207 Applied Physiology III (2 Credits)
This course will take a more in-depth exploration of the human body systemic functions and will focus on how derangements in these systems affect the evaluation of and ASA (American Society of Anesthesiology) classification of patients, specifically how knowledge of patient physiological derangements affects their overall anesthetic risk for morbidity and mortality. The major organ systems (cardiac, neurological, renal, gastrointestinal, liver, and immunologic systems) will be covered. Letter Graded

ANES 5250 Case Based Simulation II (2 Credits)
In this advanced course, a simulator will be used to engage students in active learning and critical thinking by participation in clinical case-based scenarios structured to cover advanced anesthesia monitoring, instrumentation and crisis management. The cases will develop student's understanding of applied physiology, pharmacology, and advanced monitoring skills to detect and remedy simulated patient anesthetic complications and hemodynamic perturbations. Letter Graded

ANES 5301 Introduction to Physiology I (3 Credits)
This course will expand upon basic anatomy and physiology learned in the pre-requisite undergraduate courses, focusing on clinically relevant physiology and pathologic processes. Intrinsic details and functionality of the major organ systems (cardiac, neurological, renal, gastrointestinal, liver, and hematologic systems) will be covered. Letter Graded

ANES 5302 Applied Physiology in Anesthesia I (3 Credits)
This is an advanced course that will utilize an organ system approach to teach human pathology. Students will learn how to evaluate the severeity of patient disease to detrmine anesthetic risk. The major organ systems (cardiac, neurological, renal, gastrointestinal, liver, and hematologic systems) will be covered. Letter Graded

ANES 5303 Applied Physiology in Anesthesia II (3 Credits)
This advanced course will take a more in-depth exploration of human systemic functions and pathology that include trauma anesthesia, critical care, pediatric anesthesia, obstetric anesthesia, and pediatric cardiovascular anesthesia. Letter Graded

ANES 5350 Introduction to Physiological Simulation (3 Credits)
Students will learn technical skills like peripheral intravenous catheter placement and participate in simulated clinical scenarios. This course will focus on patient monitoring (pulse oximetry, capnography, blood pressure measurement, heart rate/EKG, temperature, respiratory rate), exploration of anesthesia machine functionality, anesthetic alarm interpretation, breathing circuits, cardiac output monitoring, arterial pressure monitoring and central venous pressure monitoring. Letter Graded

ANES 5351 Case Based Simulation I (3 Credits)
Students will engage in active learning and critical thinking by participation in clinical case-based scenarios structured to cover common intraoperative complications. The cases will develop student's understanding of applied physiology, pharmacology, and advanced monitoring skills to detect and remedy simulated patient anesthetic complications and hemodynamic perturbations. Letter Graded

ANES 5401 Anatomy (4 Credits)
This course will integrate structural anatomy with radiographic visualizations to establish foundational knowledge necessary to comprehend and explore the anesthetic techniques utilized clinically to provide anesthesia for a complex array of surgical procedures. Letter Graded

ANES 6101 Clinical Anesthesia Experience IV (10 Credits)
In this course, students will continue to rotate on the advanced anesthesia clinical services such as Pediatric Anesthesia, Cardiovascular Anesthesia, Obstetrical Anesthesia, Trauma, Neurosurgical Anesthesia, Pediatric Cardiovascular Anesthesiology, ICU, Anesthesia Clinic, Regional Anesthesia, and Advanced Orthopedic Surgical Anesthesia with an Acute Pain Management Focus. Students will receive supervised instruction in the operating room. Letter Graded

ANES 6102 Clinical Anesthesia Experience V (10 Credits)
In this course, students will continue to rotate on the advanced anesthesia clinical services such as Pediatric Anesthesia, Cardiovascular Anesthesia, Obstetrical Anesthesia, Trauma, Neurosurgical Anesthesia, Pediatric Cardiovascular Anesthesiology, ICU, Anesthesia Clinic, Regional Anesthesia, and Advanced Orthopedic Surgical Anesthesia with an Acute Pain Management Focus. Students will receive supervised instruction in the operating room. Letter Graded

ANES 6103 Clinical Anesthesia Experience VI (10 Credits)
In this course, students will continue to rotate on the advanced anesthesia clinical services such as Pediatric Anesthesia, Cardiovascular Anesthesia, Obstetrical Anesthesia, Trauma, Neurosurgical Anesthesia, Pediatric Cardiovascular Anesthesiology, ICU, Anesthesia Clinic, Regional Anesthesia, and Advanced Orthopedic Surgical Anesthesia with an Acute Pain Management Focus. Students will receive supervised instruction in the operating room. Letter Graded

ANES 6104 Sub-Specialty Elective (1 Credit)
In this course, the student will spend their time in clinicals in a sub-specialty area of interest. This can include Pediatric anesthesia, Obstetrical anesthesia, Trauma, Regional anesthesia, Cardiovascular anesthesia, Neurosurgical anesthesia, and Non-Operative Room Anesthesia. The student will devise a project proposal in collaboration with a faculty member of their choosing that summarizes the clinical pearls of the subspecialty. The student will present the content to their student colleagues. Letter Graded

ANES 6201 Anesthesia Principles & Practice I (2 Credits)
This course will guide anesthesiologist assistant students on how to develop an anesthetic plan and preoperatively assess their patients in the domains of respiratory, cardiac, GI, renal, neuro, endocrine, hepatic, coagulation, and preoperative testing evaluation. Letter Graded

ANES 6202 Anesthesia Principles & Practice II (2 Credits)
This course will guide anesthesiologist assistant students on how to develop the critical thinking skills and advanced technical skills necessary to be a well-rounded, competent mid-level provider capable of assisting the anesthesiologist and other members of the perioperative care team manage crisis care. Students will participate in specialty-based anesthesia management problem-based learning discussions in this course Letter Graded

ANES 6301 Orientation to Clinical Anesthesia (3 Credits)
This introductory course will orient anesthesia assistant students to the clinical environment and teach them how to assimilate into the anesthesia care team. Topics of study will include: infection control, universal precautions, hand washing, operating room standard protocols, sterile technique, an overview of the history of anesthesia, the types of anesthetics delivered, ASA standard monitoring, the basics of the anesthesia machine. Letter Graded

ANES 6302 Clinical Anesthesia Experience I (3 Credits)
This course gives students exposure to complex anesthesia intraoperative environment. Students will apply the knowledge gained during the introductory didactic courses to practical clinical cases in the surgical environment. Letter Graded

ANES 6303 Clinical Anesthesia Experience II (3 Credits)
This course continues to give students exposure to complex anesthesia intraoperative environment. Students will apply the knowledge gained throughout their training to practical clinical cases in the surgical environment. Letter Graded

ANES 6801 Clinical Anesthesia Experience III (8 Credits)
In this course, students will begin to rotate on the advanced anesthesia clinical services such as Pediatric Anesthesia, Cardiovascular Anesthesia, Obstetrical Anesthesia, Trauma, Neurosurgical Anesthesia, Pediatric Cardiovascular Anesthesiology, ICU, Anesthesia Clinic, Regional Anesthesia, and Advanced Orthopedic Surgical Anesthesia with an Acute Pain Management Focus. Students will receive supervised instruction in the operating room. Letter Graded

Clinical Research (CLRS)

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CLRS 5003 Advanced Epidemiology (4 Credits)
In this problem-based course, each student is expected to build a clinical research proposal in his/her field of interest. Each week, students are asked to present the appropriate parts of their protocols to facilitate the discussion of successive stages in study design. This course is run in small group sessions (6-14 students per group) to facilitate active participation and interaction. Prerequisite: Consent of instructor (1.5 credit hours) Letter Graded

CLRS 5010 Advanced Biostatistics for Clin Investig (4 Credits)
This course will focus on the mechanics of applying biostatistical techniques in a research setting. Emphasis will be placed on assumption testing and techniques of model fitting. Students will be expected to critically evaluate, develop, and execute analysis plans using descriptive analysis and regression techniques. Prerequisite: Biostatistics for Clinical Investigators or consent of instructor (4 credit hours) Letter Graded

CLRS 5015 Using Rsrch to Infrm Hlth Cre Polcy&Prac (4 Credits)
In this course, the students apply rules of evidence and health services research to clinical practice, practice guidelines, and health care policy. Decision analysis and methods for quantifying benefit, risk, and cost will be used to evaluate health care interventions at the individual patient and population levels. This critical appraisal will be used to launch discussions of mechanisms to bridge the gap between clinical research evidence and health services delivery and health policy. Prerequisite: Literature Appraisal or consent of instructor (4 credit hours) Letter Graded

CLRS 5017 Advanced Clinical Research Design (4 Credits)
his course will build on design concepts for observational and interventional studies that were introduced in the prerequisite courses. Topics will include the use of matching and restriction to minimize bias in observational studies, consideration of analytic strategies (e.g., correlated samples, use of propensity scores) in study design, survey research methods, the relationship between quality improvement and clinical research, adaptive randomization, alternatives for consent for research, factorial designs, cluster randomization, using patient values to select important study outcomes, weighing benefits and harms, approaches to stopping rules, and enhancing the feasibility of clinical trials. Prerequisite: Introduction to Epidemiology Research, Clinical Trial Design, or consent of instructor. (4 credit hours) Letter Graded

CLRS 5020 Economic Evaluations in Clinical Research (4 Credits)
This course will provide an in-depth exposure to the different economic evaluation methods used to assess the value of health care interventions and programs. Participants will learn how to critique and interpret economic evaluation studies and apply it in their own research projects. The course will also provide an introduction to research involving research networks, registry, and administrative data with a hands-on introduction to publicly available datasets that the students will have the opportunity to use in preparation for their required research proposal. A working knowledge of the principles of epidemiology, literature appraisal, and study design is required. Prerequisite: Biostatistics for Clinical Investigators or consent of instructor (4 credit hours) Letter Graded

CLRS 5099 Individual Study (1-6 Credits)
Individual Study Letter Graded

CLRS 9994 Institutional Review Board Practicum (1 Credit)
Institutional Review Board Practicum Letter Graded

CLRS 9996 Scientific Writing Practicum (1 Credit)
Scientific Writing Practicum Letter Graded

CLRS 9997 Scientific Presentation Practicum (1 Credit)
Scientific Presentation Practicum Letter Graded

CLRS 9998 Clinical Research Thesis (1-6 Credits)
Clinical Research Thesis Letter Graded

Emergency (EMER)

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EMER 4000 Required Emergency Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

Family Medicine (FAMD)

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FAMD 3001 Family Medicine
The goal of this clerkship is to introduce students to the practice of Family Medicine by focusing on the clinical approach to the ambulatory primary care patient. Learning activities are planned to introduce the knowledge, attitudes, and skills that all physicians need when evaluating such a patient. Fail Thru Honors(MED)

FAMD 4000 Required Ambulatory Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

Geriatrics (GERI)

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GERI 3030 Geriatrics (Pass/Fail)
The geriatric and palliative third year rotation is designed to enable medical students to practice effectively in a clinical setting. Students will actively participate in the ongoing, daily care of older and/or palliative patients. Students will be paired with a geriatric or palliative preceptor who will provide clinical teaching and feedback. Throughout the clerkship, students will work with a variety of geriatric and/or palliative focused health professionals as part of the interprofessional team approach. Pass/Fail

Internal Medicine (INTM)

Course descriptions in school catalogs and the Course Search (https://catalog.uth.edu/course-search/)are correct at the time of publication. See myUTH (https://uthidp.uth.edu/nidp/saml2/sso/?id=Campus-Affiliate-LOA2-DUO&sid=0&option=credential&sid=0) for more recent course information and to register for courses.

INTM 3001 Medicine
The Internal Medicine Clerkship is an eight week rotation split into two four week blocks with the primary goal of introducing students to the evaluation and treatment of adults hospitalized with acute medical illness. Emphasis is placed on developing the skills to diagnose common clinical conditions and to recognize the clinical presentations of common diseases. Students will take patient histories, perform comprehensive physical exams, formulate problem lists with appropriate differential diagnoses, and document their findings in the electronic health record. Students will participate in the evaluation of a diversity of patients as part of a team of residents and students under the supervision of an internal medicine faculty member. Fail Thru Honors(MED)

INTM 4000 Required Ambulatory Medicine
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

Neurology (NEUR)

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NEUR 3000 Required Neurology
The Neurology clerkship is a four week rotation designed to educate students to take a relevant neurologic history, perform a comprehensive neurologic exam and based on their findings, effectively localize the lesion or determine the relevant neuroanatomical correlation. Students will have an opportunity to perform a neurologic exam on a standardized patient, encounter common neurologic emergencies in the simulation lab and repeatedly apply their knowledge in both inpatient and outpatient settings where they will encounter a broad range of neurologic diagnoses. Fail Thru Honors(MED)

Obstetrics/Gynocology (OBGY)

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OBGY 3001 Obstetrics/Gynecology
The Obstetrics and Gynecology clerkship covers pathophysiology of the female reproductive system. The basis for the diagnosis, management, and treatment of diseases specific to women are also covered. Students participate in patient encounters in the operating room, labor and delivery, emergency room, ambulatory clinics and on the hospital wards. Fail Thru Honors(MED)

OBGY 4000 Required Ambulatory OBGY
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

Patient Care (APC)

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APC 4000 APC/Inpatient Memorial Hermann Hospital
Students will deepen their knowledge of inpatient Family Medicine by providing direct patient care to hospitalized patients on the family medicine teaching service. Working with residents and faculty, students will learn about the diagnosis and management of common problems such as chest pain; myocardial infarction; cardiac, hepatic and/or renal failure; diabetes; metastatic cancer; pneumonia, sepsis, and other infectious diseases; COPD; HIV; and GI bleeding. Students will have the unique opportunity to spend 1 of the 4 weeks working with the night residents. This will increase the student's exposure to and experience with new hospital admission and performing acute care. Fail Thru Honors(MED)

APC 4010 APC/Medicine Acting Internship
The Department of Internal Medicine offers senior students the opportunity to act as interns on the teaching services in Internal Medicine. The rotation provides an opportunity for the senior student to make the transition from student to intern in medicine. It is designed to give the student a high degree of responsibility for patient care. The acting intern will share equal status with the medical interns on the service in all respects. Fail Thru Honors(MED)

APC 4013 APC/Internal Medicine - Pediatrics
The Department of Internal Medicine offers senior students the opportunity to act as interns on the teaching service in Internal Medicine-Pediatrics. The rotation provides an opportunity for the senior student to make the transition from student to intern in medicine. It is designed to give the student a high degree of responsibility for patient care. The acting intern will share equal status with the medical interns on the service in all respects. Fail Thru Honors(MED)

APC 4014 APC/Internal Medicine - Geriatrics
The Department of Internal Medicine offers senior students the opportunity to act as interns on the teaching service in the Geriatrics and Palliative Medicine Division. The rotation provides an opportunity for the senior student to make the transition from student to intern in medicine. It is designed to give the student a high degree of responsibility for patient care. The acting intern will serve as a medical intern on the service. Fail Thru Honors(MED)

APC 4020 APC/Pediatric Neurology
The Department of Internal Medicine offers senior students the opportunity to act as interns on the teaching service in the Geriatrics and Palliative Medicine Division. The rotation provides an opportunity for the senior student to make the transition from student to intern in medicine. It is designed to give the student a high degree of responsibility for patient care. The acting intern will serve as a medical intern on the service. Fail Thru Honors(MED)

APC 4021 APC/Neurology/Stroke
The Department of Neurology and Stroke Institute offer senior students the opportunity to act as interns on the inpatient Stroke Service. The rotation provides an opportunity for the senior student to make the transition from student to intern on the Stroke Service. It is designed to give the student a high degree of responsibility for patient care. The acting intern will share equal status with the Neurology interns on the service in all respects. Fail Thru Honors(MED)

APC 4030 APC/High Risk Obstetrics/Maternal Fetal
Pathophysiology of common obstetric disorders such as preterm labor, preeclampsia, diabetes mellitus, etc. Maternal and fetal pathophysiology will be covered. Fetal respiratory and cardiovascular physiology as it relates to interpretation of fetal heart rate monitoring and biophysical profile assessment skills. Fail Thru Honors(MED)

APC 4032 APC/Obstetrics Inpatient Precept
Basic diagnoses and management of routine and high-risk obstetrical problems. Evaluation of patients in the emergency room referred to our service for consultation. Ambulatory care will include seeing patients in the OB Emergency Department, and weekly clinic. The student will be assigned to work with a team of residents and faculty. Fail Thru Honors(MED)

APC 4033 APC Gynecology-Oncology Inpatient/Memorial Hermann Hospital
This elective will provide an in-depth introduction to the basic principles of complex benign gynecology and gynecologic oncology. Participants will become familiar with multiple treatment modalities of chemotherapy, radiotherapy, and surgery by direct participation in patient care.. Unique opportunities at UT include working with a small patient centered team with 5 attendings on an inpatient service, ambulatory clinic, and surgical team. Fail Thru Honors(MED)

APC 4040 APC/Inpatient Pediatrics
General pediatrics Inpatient pediatrics Specific focus on the disease processes of hospitalized patients Fail Thru Honors(MED)

APC 4042 APC/Neonatal Intensive Care III Nursery
The student will achieve improved understanding of the physiology of the perinatal period including the process of normal transition from intrauterine life and physiology of disorders inherent in disruption of this normal transition. Fail Thru Honors(MED)

APC 4052 APC/Adult Inpatient Psychiatry
Faculty and staff on this rotation consist of two full-time psychiatrist and two full-time master social workers. Patients served by these units are either voluntarily admitted or involuntarily committed to the UTHealth Houston Harris County Psychiatric Hospital (UT-HCPC). The ages of patients served are 18 through geriatric age, with broad diversity. The average length of stay is 7 days. Diagnoses seen include psychotic, mood, anxiety, substance abuse, personality and cognitive disorders. Many patients have been dually diagnosed with substance abuse disorders and other primary psychiatric disorders. Some patients have intellectual developmental disorders or autism spectrum disorders. Treatment provided by the team includes psychiatric assessment, psychopharmacologic interventions, and psychotherapeutic treatment. Students spend approximately 30-40 hours weekly on the service, including 6-8 hours daily for rounds, documentation and case supervision. Students spend their time in medical and psychiatric evaluation, attendance at multidisciplinary team treatment planning meetings and rounds, in observation of program/administrative activities on the unit. Students will carry 4-5 cases at a time. Students will see their own patients daily, but will round with the team to be aware of all the cases on the unit. Case assignments are monitored by the unit attending physician to achieve a balanced clinical learning experience with the patients in regard to the age, sex, and diagnostic categories of the patients. Ongoing supervision is provided on a daily basis by the attending physician during rounds and treatment planning meetings. In the final week of the rotation, the student will give a formal patient case presentation with literature review during the resident case conference at UT-HCPC. The presentation will be approximately 20 minutes in length and will be attended by approximately 30 medical students, residents and faculty. Supervising faculty will provide close support in the development and presentation of the case. Fail Thru Honors(MED)

APC 4060 Cardiothoracic & Vascular Surgery MHH
Conduct and management of a cardiothoracic and vascular surgical service to include ambulatory care, inpatient work, consultation, and operating room. Clinical problems pertinent to preparation for internship in surgery. Fail Thru Honors(MED)

APC 4061 APC/General Surgery MHH Moody Service
Conduct and management of an elective general surgical service to include ambulatory care, inpatient work, consultation, and operating room. Clinical problems pertinent to preparation for internship in surgery. Will also receive exposure to minimally invasive and bariatric surgery. Fail Thru Honors(MED)

APC 4062 APC/Inpatient General Surgery LBJ
Conduct and management of a general surgical service to include ambulatory care, inpatient work, consultation, and operating room. Clinical problems pertinent to preparation for internship in surgery. Fail Thru Honors(MED)

APC 4064 Oral & Maxillofacial Surgery
Basic skills in evaluating and resuscitating injured patients; pre-operative care; post-operative care in the SIMU and on the wards. Also included are basic skills in evaluated, treating, operating and post-op care of acute General Surgery patients. Fail Thru Honors(MED)

APC 4065 APC/General Surgery Dudrick Service
Conduct and management of a general surgical service to include ambulatory care, inpatient work, consultation, and operating room. Clinical problems pertinent to preparation for internship in surgery. Will also receive exposure to minimally invasive surgery. Fail Thru Honors(MED)

APC 4066 APC/Trauma Surgery
Conduct and management of a trauma surgical service to include ambulatory care, inpatient work, consultation, and operating room. Clinical problems pertinent to preparation for internship in surgery. Fail Thru Honors(MED)

APC 4070 APC/Neurosurgery
The Department of Neurosurgery offers senior students the opportunity to act as interns on the Neurosurgery teaching services. Students will work one-on-one with faculty and will be exposed to the continuity of care for neurosurgical patients including seeing patient's pre-op, in the operating room, post-op, and in the outpatient clinic for follow-up care. This selective provides an opportunity for students to transition from student to intern in neurosurgery and is designed to give the student a high degree of responsibility for patient care. Students will function as an intern and will be evaluated at the level of an intern. Students will rotate through the vascular, spine, and tumor services. Specific objectives are as follows: Develop a thorough assessment of a patient's problems including the development of an appropriate differential diagnosis Take and document appropriately focused histories on patients Perform relevant physical examinations Follow assigned patients daily including writing a daily progress note Coordinate patient care with physician consultant teams and hospital services Arrange discharge plans including providing appropriate patient education and follow-up Assist with the creation of discharge summaries Students will function at the level of an acting intern on the service. Students will be responsible as the primary caregiver for their patients, discussing each of their patients with the senior resident and the attending on a daily basis during rounds. Students are required to attend the following conferences: Neurosurgery M&M, Neurosurgery Grand Rounds, Neuro-Radiology Conference, and the Neurosurgery Curriculum Conference. Students will take call with the team. Students will demonstrate attainment of the above objectives through attendance and participation in didactic conferences and attendance at clinical assignments and participation in clinical activities. Fail Thru Honors(MED)

APC 4080 APC/Urology
Exposure to the entire spectrum Urology. This includes a wide variety of general urology problems, urologic oncology, stone disease, neurogenic bladder disease, voiding dysfunction, incontinence, genitourinary injury, reconstructive urology, gender affirmation surgery and transgender care, erectile dysfunction and pediatric urology. Students will be involved in the operative, inpatient, and ambulatory care of urology patients. By the end of this elective, the student should be able to: 1. Describe urologic anatomy and physiology 2. Complete work ups for common urologic issues such as microscopic hematuria, voiding dysfunction, and stone disease. 3. Discuss the basic principles of the evaluation and management of common urologic malignancies, such as prostate cancer, kidney cancer, and bladder cancer 4. Discuss the basic pre-and post-operative management of urologic cancers, voiding dysfunction, and stone disease 5. Identify risk factors associated with and screening recommendations for urologic malignancies 6. Learn the basics of reading and interpreting urologic publications 7. Basic Knowledge of Urologic Radiology Students may be involved with call and will schedule with the resident team. Fail Thru Honors(MED)

APC 4090 APC/Orthopaedic Surgery
This selective will allow students to function as an acting intern in orthopedic surgery. Students will take orthopaedic histories and conduct appropriate physical examinations of the extremities and spine. This APC should be considered by students applying to an Orthopaedic Surgery Residency Program. By the end of this selective, the student should be able to: Summarize and interpret results of the history, physical examination, lab and imaging tests to form a differential diagnosis Develop treatment plans that include common therapeutic options Write complete and accurate daily progress notes including interpretation of clinical, laboratory, and radiographic findings Manage common inpatient orthopaedic conditions Perform basic procedures including reduction of fractures, application of casting and splints, insertion of skeletal traction pins, joint arthrocentesis, and basic suturing of lacerations Assist with basic orthopedic surgeries including long bone intramedullary nailings, eg. Tibia and femur, open reduction internal fixation of periarticular fractures, open reduction internal fixation of pelvic and acetabular fractures, open reduction and internal fixation of long bone injuries, management of common pediatric fractures, incision and drainage of septic arthritis, irrigation and debridement/wound vac application of open fractures and soft tissue defects Students will attend clinical activities as determined by the resident team and will take call every fourth night. Students will attend didactic conferences with the resident team and the weekly fracture review (every Wednesday night from 5-7 pm). Students will meet with the APC director (Dr. Warner) every Monday night from 4-6 pm for case review. Students will demonstrate attainment of the above objectives through attendance and participation in didactic conferences and attendance at clinical assignments and participation in clinical activities. Fail Thru Honors(MED)

APC 4100 Plastic Surgery
This selective is intended to be chosen by those students who are truly interested in pursuing Plastic Surgery as a career goal. This selective will allow students to function as an acting intern in plastic surgery. Students should enter this rotation with a thorough knowledge of the pertinent anatomy, proficiency in the implementation of the reconstructive ladder and a working knowledge of the permutations of grafts and flap surgery. Students enrolling in this elective should have a functional knowledge of the basics in all areas of Plastic Surgery including, Cosmetic Surgery of the face and body, to include body contouring surgery, Oncologic Plastic Surgery and specifically breast reconstruction surgery, Hand and Microsurgery, Facial Trauma, Pediatric Plastic Surgery, Acute burn and burn reconstruction and the reconstruction of other traumatic injuries. During APC 4100, the student will be considered an active member of the surgical team and will work one-on-one with the Plastic Surgery Fellows and Staff. This will be a mentoring type relationship: The student will be expected to function independently with very close monitoring and appropriate guidance from the Fellows and Staff. As an active member of the team, the student will be counted on to participate in all aspects of patient care including; daily inpatient rounds, seeing patients in the outpatient clinics and daily participation in operative cases. By the end of this selective, the student should be able to: Summarize and interpret results of the history, physical examination, lab and imaging tests to form a differential diagnosis Develop treatment plans that include common therapeutic options Write complete and accurate daily progress notes including interpretation of clinical, laboratory, and radiographic findings Manage common plastic surgery conditions Assist with basic plastic surgeries including craniofacial surgery; including craniosynostosis, cleft lip and cleft palate; hand surgery: including nerve compression syndromes, Flexor tendon injuries, extensor tendon injuries and microsurgical replantation of digits; and facial trauma: including frontal sinus fractures, orbital fractures, mid-face fractures, and mandibular fractures. Students will attend all didactic conferences (Thursday mornings from 6 am-9 am). Call is required and the student will take call every third night with the fellow. Students will demonstrate attainment of the above objectives through attendance and participation in didactic conferences and attendance at clinical assignments and participation in clinical activities. Fail Thru Honors(MED)

APC 4111 Hospital Medicine
This APC exposes fourth year medical students to the variety of patients that a hospitalist can render care to in a high acuity tertiary center. It will cover inpatient and outpatient preoperative risk assessment, hospitalist perioperative management of neuro and ortho trauma patients. Inpatient management of cirrhotic patients and medical co-management as a consultant on patients at our acute rehabilitation center who are post spinal cord injury, stroke and traumatic brain injury. Skills Acquired: At the end of the rotation the student should be able to: perform a preoperative risk assessment for a patient that will be having a non-cardiac surgery as well as learn how to medically optimize patient perioperatively (on ambulatory and inpatients) identify potential sequelae of spinal cord injury and recognize potential emergencies that can occur in spinal cord injury patients. recognize signs or symptoms of potential solid organ pathology in a trauma patient. be familiar with long term complications of cirrhosis and understand the management of several urgent medical conditions than occur in cirrhotic patients understand and manage sequalae of CNS trauma (TBI and SCI) With these experiences, the student will be well equipped to not only pursue a future career in hospital medicine should they choose to do so but they will also learn a great deal to enhance their medical knowledge in whatever other field of medicine they choose to pursue. Fail Thru Honors(MED)

APC 4120 Otolaryngology - Head & Neck Surgery
This selective will allow students to function as an acting intern in clinical otolaryngology. Students will take Otolaryngologic histories and conduct appropriate physical examinations of the head, neck and body. This APC should be considered by students who have an interest in clinical otolaryngology. By the end of this selective, the student should be able to: Summarize and interpret results of the history, physical examination, lab and imaging tests to form a differential diagnosis Develop treatment plans that include common therapeutic options Write complete and accurate daily progress notes including interpretation of clinical, laboratory, and radiographic findings Manage common inpatient conditions related to the head and neck Perform basic procedures including suturing of lacerations, flexible laryngoscopy, tracheostomy tube management, dressing changes, endotracheal tube management, and ear cleaning Students will be able to first-assist during otolaryngological surgeries including major head and neck cancer surgeries, airway surgeries (including endoscopy), ear surgeries, sinus surgeries and microvascular reconstructive surgeries. Effectively and professionally present an Otolaryngology case at departmental grand rounds Students will attend clinical activities as determined by the resident team and will take call every fourth night. Students will attend all educational conferences including trauma conference. Students will meet with the APC director (Dr. Roy) each week for a review of the case log. Students will demonstrate attainment of the above objectives through attendance and participation in didactic conferences and completion of clinical assignments and participation in clinical activities. Fail Thru Honors(MED)

APC 4130 General Neurology Inpatient Services
The Department of Neurology offers fourth year medical students the opportunity to act as interns on the inpatient General Neurology service at Memorial Hermann Hospital. This rotation provides an opportunity for the fourth year medical student to make the transition from student to intern on the General Neurology inpatient service. It is designed to give the student a high degree of responsibility for patient care. The acting intern will share equal status with the Neurology interns on the service in all respects. Fail Thru Honors(MED)

APC 4140 Pathology
This APC is intended to serve as a rigorous rotation in which students can get an in-depth look into pathology and develop skills that will allow them to excel in future pathology residency programs. The goals of the APC are: To provide a strong foundation in pathology training for students intending to apply for pathology residency. To assist students applying for pathology residency by allowing them more interaction with department faculty and signaling to residency programs that they are serious about their interest in pathology. Students will meet with the course director on the first day to review/develop their Individualized Learning Plan for the rotation. Students will take call as follows: Paired with an upper-level resident for 1 week of AP call and 1 week of CP call. At-home call: the student is expected to stay late or return to the hospital for patient care needs (frozen sections, exchange/apheresis procedures, peripheral smear review). Fail Thru Honors(MED)

Pediatrics (PED)

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PED 3001 Pediatrics
Pediatrics is an eight week rotation, with four weeks spent on the inpatient unit at Children's Memorial Hermann Hospital or Memorial Hermann Hospital Sugarland and four weeks spent at one of several outpatient pediatric clinics scattered around Houston. Students will be exposed to the care of newborn infants, children with acute and chronic medical conditions, and well children coming in for their regular checkups. A major focus of the clerkship is injury and illness prevention. Students will become familiar with congenital and acquired conditions, as well as normal and abnormal patterns of development. Fail Thru Honors(MED)

PED 4000 Required Ambulatory PED
The required fourth year ambulatory rotation is an outpatient clinic based selective, allowing students to choose a particular area of focus consistent with their career trajectory. Students will care for patients coming in for preventative health checkups, as well as those with minor acute illnesses. Students also revisit the principles of evidence based medicine, and complete a critical review of the literature for a clinical question of their choosing. Fail Thru Honors(MED)

Required Critical Care (RCC)

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RCC 4000 Required Critical Care
The required critical care rotation places fourth year students in an ICU setting, caring for the sickest patients in the hospital under the supervision of critical care fellows and faculty. Students are able to request from a list of ICUs, tailoring the experience to their intended career. There is a focus on procedures and ventilator management. Fail Thru Honors(MED)

Surgery (SURG)

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SURG 3001 Surgery
The Surgery clerkship curriculum emphasizes the basic clinical skills required to solve common surgical problems. Students will be introduced to preoperative, postoperative, emergency, and ambulatory care of patients. By the completion of this clerkship, students will be expected to demonstrate an understanding of the pathophysiology of surgically treatable diseases and to have acquired sufficient knowledge and diagnostic skills to be able to recognize when a patient's condition might best be served by a surgical consultation. Students will also develop skills for the safe, effective, and efficient management of patients in the hospital and ambulatory setting. Fail Thru Honors(MED)

Transition to Residency (RTR)

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RTR 4000 Required Transition to Residency (P/F)
This course includes specialty-based workshops, panel discussions, plenary speakers, and clinical skills practice sessions designed to prepare students for residency. McGovern Medical School's fourth-year elective programs permit students to seek clinical opportunities away from Houston, at their own expense, ranging from family practice in rural communities to experiences in the most sophisticated settings requiring advanced technology. International clinical and research electives also are available. The School is fortunate regarding the wealth of clinical opportunities available to its students. The fourth-year elective catalog is available online at https://med.uth.edu/admissions/current-students/ms4/ Fourteen weeks are available for vacation or additional electives. These weeks may be used during the required clerkships in special circumstances and with prior approval of the Office of Admissions and Student Affairs. Pass/Fail

USMLE (USML)

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USML 3001 USMLE Prep
USMLE Prep Credit/No Credit

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