

Health Professions Academic Preparation

MEDICINE

The purpose of an undergraduate education is to provide students with the opportunity to grow personally and intellectually; allowing them the time and resources to discover a breadth of new ideas and topics as well as to build and to explore their own interests and passions in depth. Therefore, students should seek a broad education during their undergraduate years. There is no required major for entrance to medical school. **The following courses represent the minimum course requirements for entrance to a Texas medical school.** Students are encouraged to incorporate these requirements into their semester by semester plans for completion of their baccalaureate degrees. It is further recommended that students learn directly from medical schools about their most current, available admissions information.

Required Areas of Study	UTSA Course	Grade/ Sem	Prerequisites/ Corequisites
Must receive C or better			
English (6 hrs lecture)	WRC 1013		
	WRC 1023		WRC 1013
Statistics (3 hrs lecture) <i>NOTE: Three Texas medical schools will also accept calculus, and one will not have a math requirement. For more information, please see the TMDSAS website.</i>	STA 1053 or higher		Satisfactory performance on placement exam
General Chemistry (6 hrs lecture; 2 hrs lab) <i>NOTE: Since the chemistry labs are worth two credit hours each at UTSA, taking just one general chemistry lab here will fulfill the two credit hour general chemistry lab requirement for Texas medical schools. However, because UTSA requires CHE 1132 as a prerequisite for Organic Chemistry and CHE 1122 as a prerequisite for CHE 1132, students will be advised to take both general chemistry labs.</i>	¹ CHE 1103 or ² CHE 1143		¹ Passing grade on Chemistry Placement Exam or C or better in CHE 1073 and completion of or concurrent enrollment in MAT 1073; ² Grade of "B" or higher in MAT 1073 and CHE 1073 or score of 60% or higher on chemistry placement exam
	CHE 1122 Lab and CHE 1120 Lab Lecture		Completion of or concurrent enrollment in CHE 1103 or CHE 1143
	¹ CHE 1113 or ² CHE 1153		¹ CHE 1103; ² "C" or better in CHE 1143 or "B" or better in CHE 1103 and instructor consent
	CHE 1132 Lab and CHE 1130 Lab Lecture		CHE 1122 and completion of or concurrent enrollment in CHE 1113 or CHE 1153
<i>Continued on Reverse</i>			

Organic Chemistry (6 hrs lecture; 2 hrs lab) <i>NOTES: Since the chemistry labs are worth two credit hours each at UTSA, taking just one organic chemistry lab here will technically fulfill the two credit hour organic chemistry lab requirement for Texas medical schools.</i> <i>CHE 2603 was formerly CHE 2604; CHE 3643 was formerly CHE 2623; CHE 3652 was formerly CHE 2632; CHE 3650 was formerly 2630.</i>	CHE 2603		CHE 1113 or CHE 1153 <i>and</i> CHE 1132
	CHE 2612 Lab and CHE 2610 Lab Lecture		Completion of or concurrent enrollment in CHE 2603
	CHE 3643		CHE 2603 and completion of or concurrent enrollment in CHE 2612
	CHE 3652 Lab and CHE 3650 Lab Lecture		CHE 2603 and CHE 2612
Physics (6 hrs lecture; 2 hrs lab)	PHY 1603 or higher		MAT 1023 (not recommended for pre-med students), MAT 1073 or higher
	PHY 1611 Lab or higher		Completion of or concurrent enrollment in PHY 1603
	PHY 1623 or higher		PHY 1603
	PHY 1631 Lab or higher		PHY 1611 and completion of or concurrent enrollment in PHY 1623
Biology (12 hrs lecture; 2 hrs lab) <i>NOTE: Biochemistry is required by the medical schools at UTHSCSA and TTUHSC and is highly recommended by other Texas medical schools. For more information, please see the TMDSAS website.</i>	BIO 1404		MAT 1023 (not recommended for pre-med students), MAT 1073 or higher; CHE 1073 or higher also recommended by UHPO
	BIO 1122 Lab		Completion of or concurrent enrollment in BIO 1404
	BIO 1413		BIO 1404
	BIO 2313 Genetics		BIO 1413 and completion of or concurrent enrollment in CHE 1103 <i>and</i> MAT 1193 or STA 1053 (STA 1403 for Biology majors)
	¹ BIO 3513 or ² CHE 4303		¹ CHE 2603 and 2612; ² CHE 3643

Please note that the previously listed UTSA courses and prerequisites are for students following the 2010-2012 Undergraduate Catalog. Students following another undergraduate catalog should consult an advisor with any questions about course numbering.

Foundation Courses: For students who are not prepared to go directly into the required courses, it will be necessary to enroll first in foundation courses such as basic chemistry and an appropriate mathematics course. It may also be necessary to take the mathematics and chemistry placement tests to determine proficiency. For additional information, students should consult an advisor early in their studies.

Advanced Biology Electives Relevant to Medical Education: The following list of upper division biology courses encompasses subject areas that will be encountered in the medical school curriculum. Although the list is not exhaustive, early exposure to these and other courses at the undergraduate level can provide beneficial preparation for success in medical school.

BIO 3013 Introduction to Clinical Medicine	BIO 3123 Comparative Vertebrate Anatomy
BIO 3163 Histology & Cytology	BIO 3413 Advanced Physiology
BIO 3433 Neurobiology	BIO 3623 Neuropsychopharmacology
BIO 3663 Human Embryology	BIO 3713 Microbiology
BIO 3813 Cellular Biology	BIO 3913 Molecular Biology
BIO 4143 Developmental Biology	BIO 4453 Endocrinology
BIO 4743 Immunology	

Additional Elective Courses to Consider: Medical education is placing a greater emphasis upon coursework in the social and behavioral sciences. Thus, an understanding of the broader contexts within which medicine is practiced on an everyday basis can be beneficial to students. Below are some courses outside of basic science areas that may be of interest to pre-health professions students.

- ANT 3523 Medical Anthropology
- COU 3103 Helping Skills
- HIS 3453 History of Medicine in America
- HTH 4503 Human Disease and Epidemiology
- HTH 4533 Nutrition and Health
- MGT 4953 Introduction to Healthcare Management
- PSY 4253 Psychology and Health
- SOC 3213 Medical Sociology
- SPN 2513 Spanish for Health Careers

Timeline: Students who enter their undergraduate studies with the intention of beginning medical school just after graduation should plan to complete the premedical curriculum by the end of their junior year and apply to medical school shortly thereafter. Such a schedule would permit a student to complete his or her baccalaureate degree requirements over the course of the following year prior to matriculation to medical school. It is not unusual, however, that a student will decide later in their academic career to pursue medicine. Arriving at the decision later does not necessarily place a student at a disadvantage. It will, however, require a student to postpone the application to medical school until premedical course requirements are fulfilled. The medical school application cycle, from application to matriculation, takes approximately fourteen months, so advanced planning is essential.

Application Process: To apply to Texas medical schools, with the exception of Baylor College of Medicine, students who are Texas residents must utilize the Texas Medical and Dental Schools Application Service (TMDSAS). Detailed information on the application process can be found at their website: www.utsystem.edu/tmdsas. The application typically becomes available May 1 and closes on October 1. It is the student's responsibility to ensure that TMDSAS receives all transcripts, fees, and other required documentation. Medical schools typically interview candidates between August and January. Admissions decisions for Texas medical schools are announced in October for Early Decision candidates, between November 15 and December 31 for Pre-Match Texas Resident Applicants, and February 1 for all others. Matriculation is in August.

To apply to out-of-state allopathic schools of medicine as well as Baylor College of Medicine, students should utilize the American Medical College Application Service (AMCAS). Detailed information about the AMCAS application can be found on the website of the Association of American Medical College (AAMC): <http://www.aamc.org/students/amcas/start.htm>.

To apply to out-of-state osteopathic schools of medicine, students should utilize the American Association of College of Osteopathic Medicine Application Service (AACOMAS). Detailed information about the AACOMAS application can be found on the website of the American Association of Colleges of Osteopathic Medicine (AACOM): <https://aacomas.aacom.org/>.

To apply to out-of-state podiatric schools of medicine, students should utilize the American Association of Colleges of Podiatric Medicine Application Service (AACPMAS). Detailed information about the AACPMAS application can be found on the website of the American Association of Colleges of Podiatric Medicine (AACPM): <http://www.aacpm.org/apply/apply.asp>.

To better serve future students, we will be establishing a longitudinal database through which we can keep track of our applicants and where they have matriculated. To facilitate this, we request that students approve advisor access to their application status through TMDSAS and other application services utilized.

MCAT: The MCAT is offered between January and September each year in a computer-based exam format. To be an early applicant to medical school, it is extremely important to take the test between January and May. Disciplined review and preparation for the exam should be undertaken at least six months in advance of the test date. The MCAT is comprised of four sections: Biological Sciences; Physical Sciences; Verbal Reasoning; and Writing Sample. The scoring for the first three sections is on a 1-15 scale. Ten or better is considered a strong score. The Writing Sample section is assigned a letter value of J to T, T being the highest possible score. The total score for all of these sections combined will also be reported. Through the AAMC website (<http://aamc.org/students/mcat/start.htm>), students can find detailed information about the exam and can register to take the exam.

Letters of Evaluation: Because selection committees depend heavily on letters of evaluation to gain insight into applicants' personal strengths, weaknesses, and accomplishments, students should be sure to request letters from individuals, such as professors, work supervisors, and volunteer supervisors, who know them well. Letters from family members or other individuals whom students know only on a personal level are inappropriate. Approximately three to five letters can be useful. The UHPO can both collect and send letters of evaluation on a student's behalf. To authorize the UHPO to do this, a student must first meet with a UHPO advisor during a Pre-Committee Assessment appointment and sign a release form. The release form also indicates if a student will waive their right of access to the letters. We recommend students to do so. Students using this service should provide all referees with copies of their release form and notify referees that letters must be signed, printed on professional letterhead, and sent directly to the UHPO via campus or postal mail.

UTSA Health Professions Committee Letter of Evaluation: The committee letter of evaluation is a form of support and advocacy which is meant to capture aspects of a student's life, personality, and background that are not found in other parts of their application. It will be written by a UHPO advisor, reviewed by other health professions committee members, and submitted to medical schools along with other letters of evaluation by the UHPO. To request a committee letter of evaluation, a student must first meet with a UHPO advisor during a Pre-Committee Assessment appointment to discuss his or her premedical preparation and to learn about all requirements for the committee process. Committee interviews, one of the requirements of the committee process, are only offered between mid-March and September 1 each year.

Community Service/Volunteering/Shadowing: An integral part of preparation for medical school entails involvement in community service projects and volunteer work in a hospital or clinical setting. These activities serve to familiarize prospective health care providers with the realities of everyday clinical practice as well as to underscore the role of medicine in relation to broader community level concerns and issues. A list of volunteer opportunities is available on the UHPO website (<http://www.utsa.edu/healthprofessions>), and we will continue to update additional possibilities. We do not, however, have a list available for shadowing experiences. Students must exercise personal initiative and develop relationships that would allow them to have this direct contact with a physician in everyday clinical practice.

Personal Statement: The UHPO staff will read and provide feedback to students regarding their personal statements given sufficient time, preferably two weeks prior to when comments are needed. We also recommend that students visit The Writing Center at www.utsa.edu/twc for further review.

Interviews: The UHPO can offer some advice as students prepare for interviews and, after interviews, would like to debrief with students about their impressions. The University Career Center also facilitates interview workshops and conducts mock interviews to provide students with feedback. For more information about their services contact them at the Main Campus [UC 2.02.04 or (210) 458-4589] or Downtown Campus [BV 1.304 or (210) 458-2910].

Additional Resources: The UHPO keeps and maintains resources that are available to students in our office and on our website. It is important to read widely about the practice of medicine in books, medical journals, and current issues in health care. In addition, students should consult the websites of individual medical schools, the Association of American Medical Colleges at www.aamc.org, the American Association of Colleges of Osteopathic Medicine (AACOM) at www.aacom.org, the American Association of Colleges of Podiatric Medicine (AACPM) at www.aacpm.org, and the Texas Medical and Dental Application Service at www.utsystem.edu/tmdsas.

Joint Admission Medical Program: The Joint Admission Medical Program (JAMP) was created by the Texas Legislature as Senate Bill 940 to provide support and services to “highly qualified, economically disadvantaged students” who want to become physicians. Admission to JAMP is selective and limited. If admitted to JAMP, a student will receive numerous benefits throughout their undergraduate studies and in medical school, including: a scholarship each semester of college; participation in a fully funded summer internship at one of the Texas medical schools; and admission into one of Texas’ medical schools (if all requirements are met). Students must meet with the JAMP Faculty Director during freshman year to review coursework and eligibility, submit a formal “Intent to Apply,” and formally apply online by October 1 of their sophomore year. To be eligible, students must have completed minimally 27 hours of undergraduate credit during freshman year, including some basic science courses, and earned no less than a 3.25 cumulative grade point average. Contact the UHPO for additional information and advisement. For additional information, please visit the JAMP website at www.utsystem.edu/jamp and contact the UHPO.

Health Professions Advising: The UHPO provides advising and support to students interested in pursuing careers in the health professions, including medicine. This consists of academic preparation assistance as well as information about health careers, application procedures, and entrance exams for undergraduates, post- baccalaureate students, non-degree seeking students, and alumni. Students are encouraged to seek advice and consult with the UHPO advising staff early in their college career. For more information about our appointment and walk-in schedules and our other services, please contact us:

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