BIOMEDICAL INFORMATICS (MS/MD)

Program Description and Goals

The MS/MD Dual Degree pathway program is for students aiming to be both physicians and informaticians. Through this unique program, students earning a Doctor of Medicine (MD) also study at McWilliams School of Biomedical Informatics at UTHealth Houston and earn a Master of Science in Biomedical Informatics during their four years of medical school.

Our school collaborates with three different medical schools to offer the dual degree:

- McGovern Medical School at UTHealth Houston
- University of Texas Rio Grande Valley (UTRGV) School of Medicine
- Baylor College of Medicine (BCM) - Temple and Houston Campuses

Dual Degree students will explore the wide range of applications of health and biomedical informatics in the quest to improve patient care. The program examines both electronic health records systems and clinical decision support systems and methods for enhancing those tools. 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.

Students in the dual degree program must satisfy admission requirements and be admitted separately to each program. Students must meet the requirements of each program for its respective degree. Admission to one program does not ensure admission to the other. Students in the dual degree program will receive a diploma from each degree program after meeting the individual requirements of each program. Admission does not have to be done at the same semester for each school but must be done before reaching the maximum hours set by each School.

Master of Science in Biomedical Informatics Admission Process – MS/MD Program

The applicant should present a completed application and official documentation of the following:

1. Copy of Medical School admission letter if you are a new student with no Medical School enrollment. If you are already enrolled in Medical School, a letter of good academic standing that includes the applicant's academic year of medical school.
2. Official Transcripts from all colleges and universities attended
3. Goal Statement – follow template instructions on our website (https://sbmi.uth.edu/prospective-students/admission-requirements.htm)
4. A resume or curriculum vitae (as appropriate)
5. Three letters of reference from educators and/or employers

6. Students with international college transcripts must submit a course-by-course evaluation report by either World Education Services or Educational Credential Evaluators.
7. For International Applicants: A minimum TOELF score of 94 is acceptable on the internet-based test. A minimum acceptable score for the IELTS is a 7.

Applicant materials will be reviewed by the McWilliams School of Biomedical Informatics Admissions, Progression and Graduation (APG) Committee. The committee will consider such areas as:

- Health, MIS, Computer, or Engineering related degree
- Healthcare work experience
- Database work experience
- Informatics work experience
- Demonstrated expertise in programming
- GPA in previous degree
- Success in overcoming social, economic or educational disadvantages, race and ethnicity

Requirements for Applicants with International Coursework

- The Test of English as a Foreign Language (TOEFL) (https://www.ets.org/toefl.html) or the International English Testing System (IELTS) (https://ielts.org/ielts-usa/). For admissions consideration a minimum acceptable score of 94 on the internet-based TOEFL is required or a minimum acceptable overall score of 7.0 on the IELTS is required. Test scores are valid for two years from the test date. The official scores must be submitted directly to GradCAS from the applicable test center. Submit official TOEFL scores by using the reporting code B886; no department code is required. Submit official IELTS scores by sending them to GradCAS; no code is needed. Testing is at the applicant's expense.
- Applicants that have completed coursework outside of the United States and who have received a diploma from a university at which English is the language of instruction are not required to submit an English Language exam. If this school is outside of an English-speaking country, evidence that indicates the language of instruction will need to be provided with your application such as a letter from the University on official letterhead.
- Applicants must submit official transcripts and a course-by-course education evaluation of all transcripts from all universities attended outside the United States. The application forms for such an evaluation may be obtained online from the service providers; Educational Credential Evaluators, Inc. (ECE) (https://www.ece.org) and World Education Services (WES) (https://www.wes.org). Only evaluations from ECE or WES will be accepted. The results of the evaluation must be submitted directly to GradCAS by the agency. The evaluation report is at the applicant's expense.
- International applicants seeking F-1 student sponsorship are not eligible for this dual degree program.

MS/MD Dual Degree Program Application Deadlines

- Fall admission: July 1
- Spring admission: November 1
- Summer admission[1]: March 1

[1] International applicants seeking F-1 sponsorship are not eligible for summer admission to the Master of Science in Biomedical Informatics.

MS/MD Program Application Process

The application process for the Doctor of Medicine is determined by the McGovern Medical School at UTHealth Houston, the UTRGV School of Medicine, or Baylor College of Medicine, respectively. The application process for the Master of Science in Biomedical Informatics is determined by the McWilliams School of Biomedical Informatics.

Transfer Credit

Transfer credit is not accepted for students enrolled in the dual degree program due to the amount of shared credit hours between McWilliams School of Biomedical Informatics and the participating institution.

Shared Credit Hours

Courses that are being accepted at McWilliams School of Biomedical Informatics, through a dual or joint degree program, can only be transferred into the McWilliams School of Biomedical Informatics degree plan if the grade earned in the course is a "B" or higher. Courses for which grades of less than "B" were earned will not be accepted for transfer.

MD/MS Program Requirements for the Master of Science in Biomedical Informatics

Academic Requirements

Each student follows a degree plan developed with the guidance of the Office of Academic Affairs at McWilliams School of Biomedical Informatics. A signed degree plan (https://sbmi.uth.edu/current-students/curriculum/) will be filed each academic year that includes the required and/or elective courses as specified for the student's dual degree program. A total of 39 semester credit hours must be completed prior to graduation.

A student in the MD/MS Program in Biomedical Informatics has up to eight years (24 semesters) from the time of entry to complete the required course work. A student who has not enrolled in two consecutive registration periods (including the summer session) will have an academic hold placed on their myUTH account by the McWilliams School of Biomedical Informatics Office of Academic Affairs. Students with an academic hold will need to discuss their academic degree plan with their academic advisor to have the hold removed and be allowed to enroll in future courses. A student who has not enrolled for three or more consecutive registration periods will be dismissed and must reapply for admission to the program and the School.

Each course with a BMI prefix in the Biomedical Informatics degree plan is a graduate level, professional course and must be passed with a grade of "B" or better. Students must earn a grade of "B" or higher in all dual degree program courses, unless the course is graded on a Pass or Fail basis in which a grade of "Pass" must be earned. If a dual degree student earns less than a "B" in any required course, it must be retaken to continue in the program. A grade of "B" or higher must be earned on the second attempt to prevent dismissal from the program. The minimum grade point average (GPA) required for graduation is 3.0 on all BMI courses.

Computer Requirement

Every student is required to have reliable access to a computer that meets the minimum requirements. Students are encouraged to purchase a laptop that meets the minimum UTHealth Houston requirements. Computer requirements are listed on the website (https://sbmi.uth.edu/current-students/student-handbook/computer-requirements.htm) and are subject to change.

Curriculum for the MD/MS Master of Science in Biomedical Informatics Program

The MD/MS program requires a minimum of 39 semester credit hours to earn the MS, including the completion of a practicum experience in the field of biomedical informatics. Students must complete 27 semester credit hours of McWilliams School of Biomedical Informatics coursework and 12 semester credit hours from the student's MD program are accepted. The program curriculum for the MS degree includes:

Code	Title	Hours
Required Courses		
BMI 5300	Introduction to Biomedical Informatics	3
BMI 5310	Foundations of Biomedical Information Sciences I	3
BMI 5311	Foundations of Biomedical Information Sciences II	3
BMI 6313	Scientific Writing in Healthcare	3
BMI 6000	Practicum in Biomedical Informatics	3
Area of Interest Courses		
Select four courses [1]		12
Medical School Modules		
Select three to five modules		12
Total Hours		**39**

[1] Students will work with Office of Academic Affairs staff and McWilliams School of Biomedical Informatics faculty when selecting the courses to ensure that the elective courses meet program requirements.

McGovern Medical School at UTHealth Houston Modules accepted by McWilliams School of Biomedical Informatics for the Dual Degree Pathway Program

Code	Title	Hours
BSCI 1101	Doctoring 1: History and Physical Exam P/F	4
BSCI 1204	Doctoring 2:Longitudinal Clinical Experience	4
BSCI 2102	Doctoring 3: Longitudinal Clinical Experience	4
Total Hours		**12**

UTRGV School of Medicine Modules accepted by McWilliams School of Biomedical Informatics for the Dual Degree Pathway Program

Code	Title	Hours
MEDI 8117: Molecules to Medicine Module (MS Year 1)		3
MEDI 8119: Attack & Defense (Evidence Based Medicine) (MS Year 1)		3
MEDI 8111-01 & 8111-02: Medicine, Behavior & Society (MS Year 1 & 2)		3

MEDI 8511: Mind, Brain and Behavior (MS Year 2)	3
Total Hours	**12**

Baylor College of Medicine Modules accepted by McWilliams School of Biomedical Informatics for the Dual Degree Pathway Program

Code	Title	Hours
MBPP2-Main: Patient, Physician and Society I (MS Year 1)		1
MBPP3-Main: Patient, Physician and Society II (MS Year 1)		3
Clinical Application of Basic Sciences: Evidence Based Medicine (MS Year 2)		2
Clinical Application of Basic Sciences: Business & Leadership in Medicine (MS Year 2)		3
Research and Populations in Medicine (MS Year 1)		3
Total Hours		**12**

Practicum

Students in the Master of Science in Biomedical Informatics must select an area of interest in which to apply the knowledge and skill gained during the didactic courses while participating in the required practicum course. Students in the MD/MS program must complete at least 24 credit hours in their master's program before participating in the practicum requirement. Students should work with the Practicum Coordinator for any necessary affiliation or program agreements with the practicum site, if agreements are not already in place. A practicum proposal must be submitted to the Practicum Coordinator by week three of the semester of enrollment in the practicum course and it must be approved, in writing, by the student's Faculty Practicum Advisor. Students can complete all required practicum credit hours during one semester or the course can be repeated for a maximum of 3 semester credit hours (for BMI 6000 Practicum in Biomedical Informatics) to meet degree requirements. During the course of the semester(s), student must create weekly logs to chronicle their hours, tasks, and reflections on how the duties of the practicum relate to Biomedical Informatics courses taken. Once the student has logged all 135 contact hours and concluded all practicum projects, she or he must create an 18-page, double spaced capstone report that details the major project they completed during their practicum. This report, along with other deliverables, will be submitted in completion of the practicum. If students have any questions regarding the practicum, they can contact the Practicum Coordinator or the Office of Academic Affairs.

For further curriculum information, please contact:

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