BIOMEDICAL INFORMATICS (MS)

Program Description and Goals

The formal study of informatics at the master's level is designed as a multi#disciplinary approach to accomplish these important goals:

1. Understand the scope of the discipline of Biomedical Informatics;
2. Demonstrate knowledge of the literature of Biomedical Informatics;
3. Develop informatics solutions to biomedical problems based on current research; and,
4. Utilize Electronic Health Records or other health information technologies effectively

Master of Science in Biomedical Informatics Admission Process

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

1. A baccalaureate degree or higher
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 TOEFL 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 International Applicants

- 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.
- International applicants 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.
- International 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.
- F-1 sponsorship is available for students in the Master of Science Biomedical Informatics, Research Track program. Students on a F-1 student visa are not eligible to enroll in the Master of Science in Biomedical Informatics, Applied Track program.
- The I#20 form, required by the Department of Homeland Security (DHS) and the United States Citizenship and Immigration Services (USCIS), is prepared by UTHealth Houston and issued to qualified non-immigrant applicants who have been admitted and who have demonstrated financial ability to support their education. Upon acceptance, the non-immigrant student will be asked to provide financial and visa information so that the I#20 form may be completed. The student must submit the completed form to the American Embassy in his/her country of origin in order to receive a student visa or must otherwise be eligible for F#1 status in the U.S. Please contact the UTHealth Houston Office of International Affairs for information (713-500-3176, utoiahouston@uth.tmc.edu).
- International applicants seeking F-1 sponsorship are not eligible for summer admission to the Master of Science in Biomedical Informatics.

Master of Science in Biomedical Informatics 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.

Academic Requirements

Each student will develop a degree plan with written approval of their academic advisor. 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 MS program. A total of 39 semester credit hours for all courses in the degree plan must be completed prior to graduation. There are two tracks The University of Texas Health Science Center at Houston within the Master's Program. Students should work with the McWilliams School of Biomedical Informatics Office of Academic Affairs and their advisor to assure they are taking courses in their desired focus area.

A student in the 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 course and should be passed with a grade of "B" or better. Students who earn a grade of "C" must retake the course, whether a required or elective course, and earn a grade of "B" or higher to continue on in their academic program. The course must be retaken the next semester the course is offered. The original grade of "C" will remain on the student transcript. All students who earn a grade of "C" will be placed on Academic Probation. Students are not permitted to earn more than two grades of "C". The third grade of "C" will result in dismissal from the school. The minimum grade point average (GPA) required for graduation is 3.0 on all courses.

A maximum of six credit hours of Directed Study can be applied toward the master's program.

Transfer Credit

Transfer credit for equivalent graduate courses taken elsewhere may be awarded and used to meet degree requirements if their equivalency to a McWilliams School of Biomedical Informatics degree program course is approved through a Petition for Equivalency Credit (PEC). The maximum number of transferable semester credit hours is 12 for the master's program. Contact the McWilliams School of Biomedical Informatics Office of Academic Affairs for information.

Courses that are accepted at McWilliams School of Biomedical Informatics, through a dual or joint degree program, can only be transferred in 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. Courses must have been completed within the last five years to qualify. See "Five-Year Rule (https://catalog.uth.edu/biomedical-informatics/academic-standards-policies-procedures/)."

Applicants who are presenting course work from universities or colleges outside the United States to meet admission or graduation requirements are referred to the section on International Applicants in this catalog for a listing of additional requirements.

Computer Requirement

Every student is required to have reliable access to a computer that meets the minimum technical requirements. Students are encouraged to purchase a laptop that meets the minimum school requirements.

Computer requirements are listed on the website here (https://sbmi.uth.edu/current-students/student-handbook/computer-requirements.htm) and are subject to change.

Curriculum for the Master of Science in Biomedical Informatics
Research Track

The curriculum of the research track for the Master of Science degree in Biomedical Informatics includes required didactic courses and a practicum. Didactic courses (lecture/discussion, demonstration and student laboratories) are presented to provide facts, concepts, and theories related to the techniques and procedures of Biomedical Informatics. The courses include instruction in basic informatics, research, advanced informatics and elective courses. The practicum is designed to give the students the opportunity to apply theory and techniques in the hospital, research, or private laboratory setting.

Each student will develop a degree plan with written approval of their academic advisor. A degree plan will be filed each academic year that includes the core and required courses as specified below:

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 5352	Statistical Methods in Biomedical Infomatics	3
BMI 6313	Scientific Writing in Healthcare	3
BMI 6000	Practicum in Biomedical Informatics	3
Elective Courses (seven courses)		
Totaling 21 hours [1]		21
Total Hours		**39**

[1]   See school website for suggested concentration curriculum

Changes to the degree plan must be approved in advance by the faculty advisor and the signed degree plan must be on file with the Office of Academic Affairs prior to course registration.

Applied Track

The curriculum of the applied track for the Master of Science degree in Biomedical Informatics includes required didactic courses, a choice of elective and a practicum. Didactic courses (lecture/discussion, demonstration and student laboratories) are presented to provide facts, concepts, and theories related to the techniques and procedures of Biomedical Informatics. The courses include instruction in basic and applied informatics. The practicum is designed to give the students the opportunity to apply theory and techniques in the hospital, research, or private laboratory setting.

Each student will develop a degree plan with written approval from their academic advisor. A signed degree plan will be filed each academic year that includes the core and required courses as specified below:

Code	Title	Hours
Required Courses		
BMI 5300	Introduction to Biomedical Informatics	3
BMI 5301	The US Healthcare System	3
BMI 5305W	Legal and Ethical Aspects of Health Informatics	3
BMI 5313	Foundations of Electronic Health Records and Clinical Information Systems [1]	3

BMI 5315W	Quality & Outcome Improvement in Healthcare	3
BMI 5317	Applied Data Management	3
BMI 5328W	System Analysis and Project Management [2]	3
BMI 5329	Workflow Process Modeling	3
BMI 5371	Business and Technical Communication	3
BMI 6316	Change Management for Health Informatics	3
BMI 6340	Health Information Visualization and Visual Analytics	3
BMI 6000	Practicum in Biomedical Informatics	3
Elective		3
Total Hours		**39**

[1] $100 Course Fee

[2] $50 course fee

Changes to the degree plan must be approved in advance by the faculty advisor and the signed degree plan must be on file with the Office of Academic Affairs prior to course registration.

Practicum in Biomedical Informatics

Students in the Master of Science in Biomedical Informatics program 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 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 APA format, 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 the student receives an incomplete for practicum, the student will have the following semester to complete it or receive an "F". If students have any questions regarding the practicum, they can contact the Practicum Coordinator or the McWilliams School of Biomedical Informatics Office of Academic Affairs.

Additional information regarding the Practicum in Biomedical Informatics can be found here (https://sbmi.uth.edu/current-students/practicum.htm).

For further curriculum information, please contact:

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