BIOMEDICAL INFORMATICS (MS/AEGD)

Program Description and Goals

The Advanced Education in General Dentistry (AEGD) Graduate Certificate and Master of Science in Biomedical Informatics (MS) Pathway Program is a collaborative program between McWilliams School of Biomedical Informatics and the UTHealth Houston School of Dentistry (UTSD). Through this program, students can concurrently earn both the Master of Science in Biomedical Informatics from McWilliams School of Biomedical Informatics and a Graduate Certificate in General Dentistry from UTSD.

The MS/AEGD pathway program is an innovative and forward-thinking approach to training dental professionals with critical skills in data analysis, health informatics, and evidence-based decision-making. This program complements core clinical dental competencies by equipping students with expertise in data management, analysis, and health information technology integration—skills that are increasingly essential as technology transforms patient care. Graduates will be prepared to address complex challenges in public health and healthcare delivery, extending their impact beyond traditional dental practice. This pathway program also empowers students to engage in interdisciplinary healthcare initiatives, promoting oral health, disease prevention, and modern care delivery models that integrate informatics-driven solutions.

Aligned with UTHealth Houston's transdisciplinary mission, this program fosters collaboration between dentistry and informatics professionals. It prepares participants to lead advancements in areas such as electronic health record optimization, clinical decision support systems, and AI-powered patient care. By uniting the clinical strengths of the Graduate Certificate in General Dentistry with the data-driven focus of McWilliams School of Biomedical Informatics, this program not only enhances individual expertise but also drives innovation and systemic improvements in both dental and broader healthcare practices.

Students in this pathway program must satisfy admission requirements and be admitted separately to each program. Students must meet the requirements of each school for its respective program. Admission to one program does not ensure admission to the other. Students in the pathway program will receive a diploma and/or certificate from each school after meeting the individual requirements of each program.

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

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

1. Copy of UTSD School admission letter if you are a new student with no previous enrollment, or if you are already enrolled at UTSD, a letter of good academic standing that includes the applicant's academic year of entry into the AEGD Certificate Program.

2. Official Transcripts from all colleges and universities attended

3. Goal Statement – follow template instructions in application

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 87 is acceptable on the internet-based test. A minimum acceptable score for the IELTS is a 7.

NOTE: Student Visas will be sponsored by the UTHealth Houston School of Dentistry.

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) or the International English Testing System (IELTS). 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) and World Education Services (WES). 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 pathway program.

MS/AEGD Pathway Program Application Deadlines

Admission is only offered once per academic year.

Spring admission: November 1

MS/AEGD Pathway Program Application Process

The application process for the AEGD Graduate Certificate in General Dentistry is determined by UTHealth Houston School of Dentistry. 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 pathway program due to the amount of shared credit hours between McWilliams School of Biomedical Informatics and the UTHealth Houston School of Dentistry.

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.

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.

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

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 will be filed each academic year that includes the required and/or elective courses as specified for the student's pathway program. A total of 39 semester credit hours must be completed prior to graduation. Pathway students must complete all AEGD program requirements to be eligible for MS degree conferral.

A student in the MS/AEGD 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 pathway program courses, unless the course is graded on a Pass or Fail basis in which a grade of "Pass" must be earned. If a pathway progra 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.

MS/AEGD Pathway Program Curriculum

The MS/AEGD 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 32 semester credit hours (SCH) of McWilliams School of Biomedical Informatics coursework and a total of seven (7) SCH of UTHealth Houston School of Dentistry courses are approved for shared credit allocation and application to the McWilliams Master of Science in Biomedical Informatics. Those courses, along with suggested terms of enrollment, are outlined here:

- DBPG 1001 – SU YR1
  - Conscious Sedation I – 1 SCH Elective Course
- DBPG 1081 – FA YR1
  - Oral Biomaterials I – 1 SCH Elective Course
- DBPG 1091 – SP YR1
  - Oral Biomaterials II – 1 SCH Elective Course
- DBPG 1920 – SU YR2
  - Applied Sciences II – 2 SCH Elective Course
- DBPG 1007 – FA YR
  - Practice Management – 1 SCH Elective Course
- DBPG 8006A – SP YR2
  - Perio/Pros Tx Planning Conf – 1 SCH Elective Course

The program curriculum for the MS degree includes these required, McWilliams School of Biomedical Informatics courses:

- BMI 5300: Introduction to Biomedical Informatics (3 SCH)
- BMI 5310: Foundations of Biomedical Information Sciences I (3 SCH)
- BMI 5311: Foundations of Biomedical Information Sciences II (3 SCH)
- BMI 5352: Statistical Methods
- BMI 6313: Scientific Writing in Healthcare (3 SCH)
- BMI 6002: Directed Study in Dental Informatics (2 SCH)
- BMI 6000: Practicum in Biomedical Informatics (3 SCH)

Students must also select four elective courses from McWilliams School of Biomedical Informatics in their area of interest for a total of 12 SCH. The Office of Academic Affairs and the student's academic advisor can assist with creating an integrated schedule for program completion.

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 MS/AEGD pathway 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) 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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