Biomedical Informatics, MS

ESBIOINFMS

Biomedical informatics uses data to improve human health. This two-year program aims to meet the growing need for professionals with expertise in computer and biomedical sciences, statistics and clinical environments. With your degree, you'll have a role to play in the transformation to more effective health care through information technology.

Program Description

Degree Awarded: MS Biomedical Informatics

The MS in biomedical informatics is part of the College of Health Solutions. Professionals in the field use biomedical data, information and knowledge to improve human health. Students learn problem-solving, theory and methodologies underlying the field of biomedical informatics. Students in the master's program take courses in areas such as knowledge representation, clinical environments, imaging, bioinformatics and data science. Core courses provide a background in clinical informatics, while electives allow specialization in focus areas such as data science or mobile health.

BMI fosters collaborations among academic researchers, clinical practitioners and regional health care providers to apply new developments in informatics theory to clinical practice. Biomedical informatics has a key role to play in the transformation to more effective and efficient health care through the use of knowledge and information technology.

The program educates students in the informatics knowledge and skills that will enable them to:

- detect disease early
- improve the patient hospital experience
- improve the precision of diagnosis
- improve the quality of patient health care and reduce its cost
- minimize hospital visits

At a Glance
Accelerated Program Options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an accelerated bachelor's and master's degree with:

Biomedical Informatics, BS

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

Degree Requirements

32 credit hours including an applied project (BMI 593)

**Required Core (14 credit hours)**
BMI 502 Foundations of Biomedical Informatics Methods I (3)
BMI 505 Foundations of Biomedical Informatics Methods II (3)
BMI 540 Problem Solving in Biomedical Informatics (3)
BMI 570 BMI Symposium (2)
BMI 601 Fundamentals of Health Informatics (3)

**Other Requirements (3 credit hours)**
BMI 404 Clinical Environments (3) or
BMI 504 Introduction to Clinical Environments (3)

**Electives (12 credit hours)**

**Culminating Experience (3 credit hours)**
BMI 593 Applied Project (3)

Additional Curriculum Information
Six of the 12 elective credit hours must be BMI courses.

BMI 404 or 504 is required and may be substituted with other coursework with approval of the academic unit.
Due to the diverse academic backgrounds of students requesting admission into this program, many will find it necessary to take some coursework in preparation. However, all students will take 32 credit hours of graduate-level coursework.

**Admission Requirements**

Applicants must fulfill the requirements of both the Graduate College and the College of Health Solutions.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in biology, computer science, engineering, nursing or statistics from a regionally accredited institution.

Applicants must have a minimum of a 3.00 cumulative GPA (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or applicants must have a minimum of a 3.00 cumulative GPA (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. statement of purpose
4. 3 letters of recommendation
5. GRE scores
6. proof of English proficiency

**Additional Application Information**

An applicant whose native language is not English (regardless of current residency) must provide proof of English proficiency via TOEFL scores.

Applicants who have earned degrees in other unrelated fields with appropriate academic backgrounds also will be considered. However, all applicants must have basic competencies in college-level calculus (similar to MAT 270), general biology (similar to BIO 188) or physiology, statistics (similar to STP 226) and basic computer programming (similar to CSE 100 or CSE 110).

The applicant's undergraduate GPA, statement of purpose and depth of preparation in their field are the primary factors affecting admission. Every applicant must submit scores for the GRE or any other graduate-level entry examination.

**Application Deadlines**
Contact Information

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