Biomedical Informatics, MS

Innovators, this one's for you. Do you want to blend information technology and health care? Help people with your expertise in a booming area of health and medicine.

Program Description

Degree Awarded: MS Biomedical Informatics
The MS in biomedical informatics offers students the opportunity to become professionals who use biomedical data, information and knowledge to improve human health.

Students in the master's program learn problem-solving, theory and the methodologies underlying the field of biomedical informatics. They 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.

Biomedical informatics fosters collaborations among academic researchers, clinical practitioners and regional health care providers to apply new developments in informatics theory to clinical practice. The program educates students in the informatics knowledge and skills that will enable them to:

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

Biomedical informatics has a key role to play in the transition to more effective and efficient health care through the use of knowledge and information technology.

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 are advised by their academic departments to apply.

Degree Requirements

32 credit hours including an applied project (BMI 593)

Required Core (17 credit hours)
BMI 502 Foundations of Biomedical Informatics Methods I (3)
BMI 505 Foundations of Biomedical Informatics Methods II (3)
BMI 515 Applied Biostatistics in Medicine and Informatics (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 (9 credit hours)

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

Additional Curriculum Information
Six credit hours of electives must be BMI courses.

Core course BMI 570 is one credit hour taken twice for a total of two credit hours.

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 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 cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or applicants must have a minimum cumulative GPA of 3.00 (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. three letters of recommendation
5. GRE scores
6. proof of English proficiency

Additional Application Information

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

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

Fall

Career Opportunities

Professionals with advanced training in biomedical informatics are in high demand across a variety of sectors and industries, including academics institutions, not-for-profit research institutes, governmental
and public health agencies, health care organizations, as well as information technology, biotech and pharmaceutical industries. Graduates can also pursue entrance to medical school.

Career examples include:

- research scientist
- data scientist
- analyst
- product manager
- account manager

Contact Information

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