BIOMEDICAL ENGINEERING

Biomedical Engineering

The discipline of Biomedical Engineering exposes students to the principles of biology, chemistry, and engineering, leading to careers in a wide range of industries, including biotechnology, health care and pharmaceuticals. In the Biomedical Engineering programs, students have the opportunity to take courses in a wide range of fields including biomaterials, biomechanics and bioelectromagnetics. Biomedical engineers combine engineering principles with the sciences to design medical equipment and systems to advance health care. They find work in a variety of industries, including hospitals, pharmaceutical companies and research. Graduate students in biomedical engineering perform life-improving research in a variety of areas, including dentistry, pharmaceuticals and orthopedics.

Program Description

The program offers the bachelor's degree and the master's degree in biomedical engineering. The Bachelor of Science in Biomedical Engineering offers students a broad education providing experience in many disciplines of biomedical engineering. The Master of Science in Biomedical Engineering has both thesis and non-thesis options providing students the opportunity to specialize in specific disciplines of biomedical engineering including Biomechanics and Computational Biology, Biomaterials, Bioelectronics and Medical Devices, and Biomedical Signal Processing.

Undergraduate Programs:

- Bachelor of Science: Biomedical Engineering (http://catalog.umkc.edu/colleges-schools/science-engineering/biomedical/bachelor-of-science-biomedical-engineering/)

Graduate Programs:

- Master of Science: Biomedical Engineering (http://catalog.umkc.edu/colleges-schools/science-engineering/biomedical/master-of-science-biomedical-engineering/)

Academic Regulations for Biomedical Engineering

Minimum Grade Requirement

A grade of "C-" or better must be earned in all major courses required in the biomedical engineering degree programs.

Audits

A student cannot take a course for audit and later expect to take the same course for credit in the degree program. For that reason, students must not audit any courses required in their program, unless credit has already been established. To audit an elective course, written consent from both the student's advisor and the instructor of the course is required. After the first week of classes, a student cannot change from credit to audit or audit to credit.

Petitions

To receive an exception from stated program guidelines or curriculum, the student must file a petition with the academic advisor. For transfer credit taken at another institution that is not articulated, a student may need to submit a petition to receive transfer credit. If the petition is denied by the Biomedical Engineering Degree Program Committee, the student may appeal the decision to the Dean of the School of Science & Engineering.

Academic Standing

The University tries to assure that students progress satisfactorily toward their goals and receive clear warning when they do not. The Mechanical Engineering program follows the university policy related to Academic Standing.

Satisfactory Academic Progress

Students will be expected to maintain continuous satisfactory academic progress and can be removed from the biomedical engineering program after evaluation by the Biomedical Engineering Degree Program Committee if it finds that satisfactory academic progress is not being made.

Academic Appeals

If a student has become academically ineligible, the student may be allowed to continue academic studies, provided that the student successfully appeals to the Academic Appeals Committee. The primary concern of the Appeals Committee is the likelihood of the student's future success. Accordingly, any appeal should include causes for the student's past poor performance and reasons for expecting better performance in the future. When the Appeals Committee allows a student to re-enroll, it may set conditions such as courses to be taken, minimum grades, total hours, etc. to which the student must adhere. A grade-point average deficiency may be removed by repeating a course or by taking additional courses that qualify as eligible electives in the curriculum.

Career Opportunities

Kansas City is one of the premier engineering centers in the country. Numerous engineering and manufacturing firms with national and international reputation are headquartered in Kansas City. This offers a unique opportunity to our students, many of whom participate actively as interns or as employees with these firms during the course of their study, thereby getting a balanced blend of course work and practical experience.

Job opportunities abound for engineering majors. In terms of starting salaries and the number of job offers, engineering graduates compare favorably with all other graduates. In addition, the biomedical engineering curriculum at UMKC equips the graduate with the analytic decision-making skills necessary to pursue diverse technical, managerial and entrepreneurial career opportunities.

Faculty

Biomedical Engineering Faculty

Katherine H. Bloemker[2]; teaching professor; B.S., M.S. (Stanford University); Ph.D. (University of Missouri-Kansas City).

Gregory King[2,3]; associate professor; B.S., M.S., Ph.D. (University of Kansas).

Zahra Niroobakhsh[2,3]; assistant professor; B.S. (University of Tehran, Iran); M.S. (Technical University of Darmstadt, Germany); Ph.D. (The Pennsylvania State University).

Antonis Stylianou[2,3]; associate professor; B.S., M.S., Ph.D. (University of Kansas).

Ahmed M. Hassan[2,3]; assistant professor; B.S., M.S. (Cairo University); Ph.D. (University of Arkansas)

Thiagarajan Ganesh[2,3]; professor; B.Tech., M.Tech. (Indian Institute of Technology-Madras); Ph.D. (Louisiana State University-Baton Rouge).

[2] Members of UMKC Graduate Faculty

[3] Members of UMKC Doctoral Faculty