BS in Biomedical Engineering

Degree Program Description

The Biomedical Engineering undergraduate degree program offers four tracks from which our students can develop their primary expertise: biomaterials, biomechanics, biomedical imaging and instrumentation, and bioinformatics. In collaboration with colleagues from the School of Medicine, the College of Veterinary Medicine, the School of Health Professions, the Sinclair School of Nursing, the Honors College, and the College of Engineering, we develop students into engineering leaders with skills in creative and critical thinking, problem-solving, innovation, engineering design, communication, entrepreneurship, and team-building. Our award-winning faculty offer exceptional classes and research experiences for our students, and our flexible, tracked curriculum integrates easily with the pre-medicine and Honors Certificate programs, as well as a number of integrated, 5-year, bachelor plus master degree programs at MU.

Biomedical engineering is a science-based engineering discipline that integrates engineering and biological sciences in one curriculum. The MU biomedical engineering program is a broad-based curriculum that prepares students for careers in traditional engineering as well as medicine, veterinary medicine, law, health care, policy, and academics. Biomedical engineering graduates are hired by biotechnology, medical, and pharmaceutical companies, as well as by government agencies and major research laboratories. Many of our undergraduate students attend graduate, medical, or law schools post-graduation. Graduates are well-prepared to take the Fundamentals of Engineering exam during their senior year, which is the first step toward obtaining a Professional Engineer license; many additionally take the MCAT, the LSAT, and the GRE in preparation for their graduate or professional studies.

Major Program Requirements

The curriculum encompasses basic sciences, social and behavioral sciences, humanities and fine arts, engineering sciences and topics, and program core courses. The core courses cover topics of biomedical engineering principles and design. In a capstone design course sequence, each student completes a design project under the direction of a faculty mentor. Technical electives allow students to place emphasis on biomaterials, biomechanics, bioinformatics, and biomedical imaging and instrumentation.

Students earning a Bachelor of Science in Biomedical Engineering are required to complete all University general education (http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements), University undergraduate requirements (http://catalog.missouri.edu/academicdegreerequirements/universityrequirements), degree, and major requirements, including selected foundational courses, which may fulfill some University general education requirements. All pre-requisites required for Basic Engineering, Biological Engineering, and Technical Elective courses must be completed with a grade of C- or better. Courses designated a core biomedical engineering course must be completed with a grade of C or better.

Semester Plan

A sample plan of study has not been designed for this major. Students should contact the academic department for assistance with academic planning.