BIOMEDICAL ENGINEERING - DOCTOR OF PHILOSOPHY (PHD)

Biomedical Engineering PhD students have the opportunity to participate in cutting-edge research with engineering faculty in many different biomedical fields. Our program provides the scientific foundation to prepare students for careers in academia, healthcare, industry and government labs.

The PhD program is open to both first-time graduate students as well as those who hold master’s degrees.

For more information, visit the Biomedical Engineering PhD Program (https://www.colorado.edu/bme/academics/phd-program/) page.

Requirements

All Biomedical Engineering PhD students must complete a minimum of 30 credit hours at the 5000 level or higher, plus 30 credit hours of dissertation credits. Some research advisors will require that their students complete more than 30 course credits, and the department recommends that specific course decisions should be agreed upon through individual faculty/student discussions.

Required Courses and Credits

BMEN 5117 – Anatomy & Physiology for Biomedical Engineers (offered starting Fall 2021)

Preliminary Examination

Biomedical Engineering PhD students are required to pass a preliminary examination. It consists of a comprehensive review of primary literature that supports the current and future research directions of the student. This must be completed within the first three semesters after matriculation into the program.

Comprehensive Examination

The Comprehensive Examination is an important second evaluation step required to advance the student to candidacy for the PhD degree, which is typically completed within the first three years after matriculation to the program and greater than one year prior to graduation. It consists of an NIH R21-style research proposal in addition to an oral exam with a selected committee of faculty advisors, both focusing on the proposed course of research. Students will also likely have completed a chapter of their dissertation for submission to a peer-reviewed journal before taking the Comprehensive Exam.

PhD Dissertation

Students must write a dissertation based on original research conducted under the supervision of a graduate faculty member. The dissertation must fulfill all Graduate School requirements. After the dissertation is completed, an oral final examination on the dissertation and related topics is conducted by the student’s doctoral committee.

Time Limit

All degree requirements for the Biomedical Engineering PhD must be completed within six years of the date commencing coursework.

Plan(s) of Study

In order to graduate with a PhD in Biomedical Engineering, students must take 30 coursework credits and 30 dissertation credits.

Of the 30 credit hours of coursework required at the 5000 level or above, at least 18 credit hours will be specifically in designated biomedical engineering courses, with the remaining credit hours obtained, as needed, from other fields (e.g. business, other engineering electives).

Of the 18 credit hours of biomedical engineering coursework, one core course will be required: BMEN 5117 Anatomy and Physiology for Biomedical Engineering (3 credits), which provides a foundation for advanced study.