Bioengineering

THE GRAINGER COLLEGE OF ENGINEERING
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Master of Engineering (M.Eng.) in Bioengineering

Designed for those looking for a stepping stone to technical and managerial careers in the healthcare industry, our professional master's degree combines the strengths of The Grainger College of Engineering and the Gies College of Business at the University of Illinois Urbana-Champaign. Graduates are equipped with bioengineering technical skills and big-picture business perspective—trained to find creative solutions to complex, multi-level systems problems.

Choose Between Two Concentrations

Bioinstrumentation
This concentration focuses on medical imaging devices, trains engineers to be industry leaders by combining rigorous graduate-level engineering coursework with fundamental business training on issues that confront professionals who develop products for biomedical imaging, medical diagnostics, genomics, and tools used in life science research.

General Bioengineering
This concentration is designed to bridge the skills gap between general bioengineering concepts and more business acumen through coursework and an applied consulting project. The in-depth technical training combined with the core business classes required will develop well-rounded professionals entering the health care industry.

This is also offered as a flexible, purely online degree with the same concentrations as the on-campus program.

What Our Graduates are Saying

"I'm happy to say that I use my M.Eng. degree every day! My role is somewhat multidisciplinary where I function as both a biomedical data scientist and business process analyst. My workday normally consists of leveraging my biomedical knowledge and technical skills to create automated workflows that extract data on relationships between biological entities from medical research databases. I've been able to use business skills I gained through the M.Eng. program through leading internal technical consulting initiatives at AbbVie and analyzing project data so the team can better predict timelines and capacities down the road." **Allen Bell, BIOE M.ENG '18**

"I have always wanted to pursue the healthcare IT domain and was looking for an in-depth understanding of biological systems and technologies. The M.Eng. program was a good fit for learning about how each system like CT would integrate with research criteria like bone density effects based on protein trackers. For international students who are career orientated - time is very precious and utilizing portals for job search is crucial. There are many portals in UIUC - ECS, iVenture, research park were useful for me. I recommend talking to professors and lot of networking from day one." **Madhuri Ratnakumar, BIOE M.ENG '19**

Bioengineering

THE GRAINGER COLLEGE OF ENGINEERING
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Degree Requirements

Students must complete a minimum of 32 credit hours of approved graduate coursework. Each concentration is designed with an in-depth curriculum covering multidisciplinary technical fields that are combined to provide students with a breadth and depth of understanding in bioinstrumentation and general bioengineering.

Capstone Project

Students will also demonstrate their proficiency through a team-based capstone project. Project ideas are proposed by clients from industry, teaching hospitals and clinicians seeking solutions to specific problems. Project scope may include engineering design, software development, prototyping, testing and validating results, as well as market and competitive analysis. Weekly or bi-weekly update meetings with clients are essential to the success of the project. Teams are expected to self-organize their effort by assigning tasks, developing a schedule, identifying bottlenecks, and gathering resources. Working with the clients, the teams are expected to gain insights to help them implement their idea. During the project, the teams may request guidance from program faculty and may take field trips to the client's location. Project presentations and demonstrations are delivered during a formal end-of-program event.

Curriculum

Bioinstrumentation

- BIOE 570 Seminar Series
- BIOE 571 Biological Measurement I
- BIOE 572 Biological Measurement II
- BIOE 573 Managing Business Operations
- BIOE 574 Innovation & Intro to Financial Decision Making
- BIOE 575 Capstone Project

Two 400- or 500-level elective courses from an approved list (total of 8 credit hours)

General Bioengineering

- BIOE 570 Seminar Series
- BIOE 573 Managing Business Operations
- BIOE 574 Innovation & Intro to Financial Decision Making
- BIOE 575 Capstone Project
- Choice of two BIOE 400- or 500-level courses

Two 400- or 500-level elective courses from an approved list (total of 8 credit hours)

Career Opportunities

M.Eng. alumni have gone onto industry jobs or continued to pursue further advanced degrees (M.D., Ph.D., M.S., etc.). Here is a sampling of their next destinations.

Companies

- AbbVie
- Accenture
- Baxter
- Johnson & Johnson
- MedLine
- Phillips

Job Titles

- Biomedical Project Engineer
- Field Clinical Engineer
- Process Engineer
- Product Manager
- Regulatory Affairs Specialist
- Systems Engineer
- Validation Engineer

TO APPLY, VISIT:
BIOENGINEERING.ILLINOIS.EDU