

# BIOMEDICAL ENGINEERING

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Biomedical Engineering encompasses a range of topics involving the application of engineering principles to both medicine and the life sciences. Biomedical Engineers are involved with the design and development of medical implants and assistive devices, new tools and therapeutic approaches to advance healthcare, improved diagnostic imaging and biosignal processing as well as basic research in the life sciences to improve our understanding of biophysical phenomena and physiological processes.

Interdisciplinary research in biomedical engineering has been undertaken for over 25 years at Queen's University, but in separate engineering departments. The Departments of Chemical, Electrical and Mechanical Engineering are now formally collaborating to provide a biomedical engineering collaborative specialization that allows graduate students to access courses and co-supervisors in each of these department, as well as courses in Anatomy, Cell Biology and Biochemistry.

The collaborative specialization is available to doctoral students and research masters students associated with the three member graduate departments at Queen's University.

## Application Procedure

Applicants are accepted under the general regulations of the School of Graduate Studies and Postdoctoral Affairs and of the member graduate departments.

The collaborative specialization is offered at both the Masters and Doctoral levels. Applications are reviewed by a committee composed of representatives from each of the three participating departments. For further details, interested students are encouraged to contact the representative from the department that is best aligned with their current research interest:

- Chemical Engineering: Prof. Brian Amsden  
(brian.amsden@chee.queensu.ca)
- Electrical and Computer Engineering: Prof. Evelyn Morin  
(morine@queensu.ca)
- Mechanical and Materials Engineering: Prof. Qingguo Li  
(ql3@queensu.ca)

## Program of Study

The collaborative specialization is available to eligible, approved doctoral students and research masters students associated with the three member graduate departments at Queen's University.

Students will enroll in their respective home departments and must meet the degree program requirements of their home departments.

There will be two mandatory core courses students in the program must take: CBME 801 Topics In Biomedical Eng and CBME 802 Biomedical Engineering Seminar.

Students must enroll in at least one course outside of their home department, from a list of Biomedical Engineering graduate courses.

Upon graduation, students will have "with specialization in Biomedical Engineering" added to their official transcripts.

## Financial Support

Full-time students are encouraged to seek external financial support and are encouraged to apply for NSERC and OGS graduate scholarships. Fellowships and teaching assistantships are available through the University and students are automatically considered for these, on a competitive basis, upon admission to one of the member programs.