

## PROGRAM OVERVIEW

The Queen's graduate programs in Civil Engineering are home to some of the finest minds in the fields of civil and environmental engineering. Students have the chance to study engineering in an environment where multidisciplinary research and activities are encouraged and facilitated.

They are trained to apply a diverse set of skills to solve complex problems, to work in teams and communicate effectively, and to uphold ethical standards of professional practice. This results in graduates obtaining jobs in consulting, construction, manufacturing, design, and financial firms all over the world.

Research activity in the Department is generally classified under two fields: Civil Engineering Environment and Civil Engineering Infrastructure. Environment encompasses the areas of Environmental, Geotechnical, Geoenvironmental and Hydrotechnical Engineering, while Infrastructure comprises the areas of Structural and Materials Engineering and Geotechnical Infrastructure.

These two fields reflect the growing interrelationships and collaborations among the areas within the Department, and with other research programs both within and outside Queen's University.

“ I completed my undergraduate degree at Queen's in 2004, and soon thereafter, it became clear that Queen's had much more to offer to me. I became interested in pursuing a master's degree in civil engineering, the same discipline in which I had completed my bachelor's degree. I was surprised at the subtle, yet significant, differences between the undergraduate and graduate schools. It seemed as though there was a whole new integrated community that was previously unknown to me, it was like I was discovering Queen's and Kingston again for the first time. When I finally completed my master's degree, I felt as though I was thoroughly ready to move into the working world. Since then I have encouraged many a student to continue studying beyond their four years and I will continue to do so, hoping that everyone will profit from the same wonderful experience that I had. ”

**MICHAEL RANGER, M.SC. (ENG), 2007**

## DEGREES OFFERED/LENGTH OF PROGRAM

**M.A.Sc.:** 2 years

**M.Eng.:** 1 year

**Ph.D.:** 4 years

## METHOD OF COMPLETION

**M.A.Sc.:** Course work and research thesis

**M.Eng.:** Course work and optional project

**Ph.D.:** Course work, research thesis and comprehensive oral examinations

## CROSS DISCIPLINARY ASPECTS

Our international, multidisciplinary Department offers many opportunities to collaborate with other departments at Queen's, including Biology, Chemistry, Chemical Engineering, Geography, Geological Science and Engineering, Mathematics and Statistics, Policy Studies and the School of Urban and Regional Planning. We also offer opportunities to collaborate outside of Queen's with university centres and international consortia.

## TRAVEL OPPORTUNITIES

Students in our department have travel opportunities as their research requires.

## EMPLOYMENT OPPORTUNITIES

Our graduates have gone on to rewarding careers in:

- Consulting
- Academia and Research
- Public sector
- Manufacturing
- Policy and Governance
- Civil engineering in the public domain
- Law

## SUPERVISORS AND FIELDS OF STUDY

We encourage you to contact potential supervisors in advance of formal application. Applicants for non-research (M.Eng.) programs should initially contact the Coordinator of Graduate Studies.

### Geotechnical Engineering:

- Geotechnical Engineering involves the application of soil and rock mechanics as well as engineering geology to solve engineering problems such as design of foundations, slopes, excavations, dams, tunnels and other Civil, Mining and Environmental engineering projects relating to the mechanical response of the ground, and the water within it.  
Faculty: Ian D. Moore, Richard Brachman, Andy Take, Kerry Rowe

### Environmental Engineering

- With the recent expansion of the Environmental Engineering program, research activities are now focused on both surface and subsurface water quality issues. Extensive use is made of numerical simulation techniques as well as controlled laboratory and field experimentation.  
Faculty: Bruce C. Anderson, Pascale Champagne, Bernard H. Kueper, Kent Novakowski, Yves Filion, Kevin Mumford

### Hydrotechnical Engineering

- Research in hydrotechnical engineering is carried out at the Coastal Engineering Laboratory, which occupies 2000 sq.m. on the West Campus of the university, the Hydraulics Laboratories (600 sq.m.) in Ellis Hall on the main campus, and the Cataragui Stormwater Pond in the former Kingston Township in the areas of coastal engineering, hydrology, natural channel design, sediment transport, and solid-liquid mixture pipeline flow.  
Faculty: Ana da Silva, Leon Boegman

### Structural Engineering

- Research in structural engineering concentrates on the various aspects of concrete, steel, wood, bamboo and advanced composite materials pertaining to the design, construction, maintenance and rehabilitation of structures such as bridges, buildings, breakwaters, and guideways, and the development of new construction materials.  
Faculty: Amir Fam, Mark F.Green, Colin MacDougall, Ian D. Moore, Neil Hoult

## FUNDING INFORMATION

**Basic funding package for Master's and Ph.D. students:** may include teaching or research assistantships and Queen's Graduate Awards  
**Guaranteed Minimum for Ph.D. Students:** \$18,000

We encourage all students to apply for additional funding from NSERC, OGS and other sources. Entering graduate students who win federal government tri-council awards are automatically provided a \$5,000 top-up award by Queen's.

## ACADEMIC PREREQUISITES

**Master's:** 4-year Bachelor's degree with a standing in the mid B range (70% graduating average or a ranking in the top third of the graduating class where number grades are not available).

Applicants with a Bachelors degree in a cognate science may be admitted.

We consider your grades from all four years, but we look at your last two years in specific courses.

**Ph.D.:** Master's degree in Civil Engineering. Applicants with a Master's degree in a cognate science may be admitted.

For international students, if required, a TOEFL total score of at least 600 (paper-based) or TOEFL iBT minimum scores of: writing (24/30); speaking (22/30); reading (22/30); listening (20/30), for a total of 88/120. Applicants must have the minimum score in each test as well as the minimum overall score.

## KEY DATES AND DEADLINES

**Application Deadline:** March 1st to qualify for funding

**Notification of Acceptance:** 2-3 months after we receive your application

## PROGRAM CONTACTS

Dr. Bruce Anderson, Graduate Coordinator  
Maxine Wilson, Graduate Assistant  
Civil Engineering,  
Ellis Hall, Queen's University  
Kingston, Ontario, K7L 3N6  
Phone: 613.533.6000, ext. 74228  
E-mail: maxine@civil.queensu.ca  
[www.civil.queensu.ca/graduate](http://www.civil.queensu.ca/graduate)

