Civil Engineering

MAJOR MAP

START DATES
In May, September, or January

POSITIONS
are paid and full-time

WORK TERMS
are 12-16 months long

Program Overview

- Graduate with 'Professional Internship' on your degree.
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.

Eligibility

- 2nd or 3rd Year Students
- Minimum GPA of 1.9

Why QUIP?

- Gain a year of career-related work experience.
- Build network connections.
- Receive support from Queen's staff in job search and during internship.

Sample Past Internships

For more information, contact quip@queensu.ca or visit the Program Website.

CIVIL ENGINEERING

Get to know

We go about our lives within a physical environment created by civil engineers: homes, schools, office buildings, highways, bridges, subway systems, airports, river and coastal systems and green landscapes. As a civil engineering student, you will study how to plan, design and build these structures and systems with an environmentally respectful approach. As part of its real-world preparation, this innovative program emphasizes soft learning, teamwork, communication, leadership and problem solving. Courses and electives are grouped into structural, environmental, hydrotechnical, and geotechnical streams.

Degree OPTIONS

Bachelor of Applied Science in Engineering
Bachelor of Applied Science in Engineering with Professional Internship

Specialization in Structural Design, Geotechnical Engineering, Hydraulics, and Environmental Engineering

Queen's ADMISSIONS

Students apply to Queen's Engineering (IDE through the OUAC, Ontario University Application Centre) website. Secondary School prerequisites include five 4U and 4M courses, one of which must be English 4U. Calculus and Vectors 4U, Chemistry 4U, and Physics 4U are all required along with one of Advanced Functions 4U, Biology 4U, Data Management 4U, Computer Science 4U, Earth and Space Science 4U. A final grade of 70% must be obtained in English 4U. Applicants outside of Ontario may have additional requirements.

A Common START

Queen's is unique in offering a common First Year along with an open discipline choice. When you do choose your program, you don't have to worry about caps or quotas. Provided you pass all of your First Year courses, you are guaranteed a place in your engineering program of choice. Queen's also offers Section 900, a special extended program for students struggling with First Year courses. Take things at a slower pace and recover in time for Second Year.

Course HIGHLIGHTS

Civil Engineering students have the opportunity to take a wide range of technical courses to help prepare them for the many possible career destinations available. Such courses include:

- Geotechnical Engineering
- Infrastructure Rehabilitation
- Civil Week
- Reinforced Concrete Design
- Geoenvironmental Design
- River Engineering

We envision the nourishment of a naturally-developing thread in our program which is focused on the sustainability of both the natural and built environment.

Civil Engineering

That is a degree from Queen’s.
civil.queensu.ca
2018-2019

Civil Engineering

MAJOR MAP *

BACHELOR OF APPLIED SCIENCE | BACHELOR OF APPLIED SCIENCE WITH PROFESSIONAL INTERNSHIP

GET THE COURSES YOU NEED

1ST YEAR

Queen's Engineering first year is common – courses include: Physics, Chemistry, Calculus, Algebra, Graphics, Computing and Earth Systems Engineering.

Also APSC100, the entry level course in our Engineering Design and Practice Sequence (EDPS), focusing on problem solving, experimentation principles and finishing off with a team-based engineering project.

Discipline selection will take place in February!

2ND YEAR

Students will start their second year by participating in the first of three Civil Weeks.

Courses include: Chemistry, Mechanics, Applied Mathematics, Materials, Numerical Methods, Hydraulics and Engineering Economics.

You will also take the second EDPS course – APSC200. Finally, you will take one List A (Humanities and Social Science) Complementary Studies course.

3RD YEAR

Students will start their third year by participating in their second Civil Week.

Courses include: Structural Analysis, Geotechnical Engineering, Hydraulics, Groundwater Engineering, Structural Steel Design, Water & Wastewater Engineering and Design & Practice.

You will also take one List A Complementary Studies course, plus one Management Elective.

4TH OR FINAL YEAR

Students will start their fourth year by participating in their third Civil Week.

All Civil students take a core course in Civil Engineering Design and Practice. You will also need to take 2 Technical Electives, which provide the opportunity to specialize or do a research thesis (CIVL 500) as one of the electives.

Finally, you will need to choose one List A, B, C, or D Complementary Studies course, and you are set to graduate!

Employability skills

Your time at Queen's will give you valuable skills to boost your employability, including:

• Knowledge of civil engineering methods and theory

• Apply principles of physics and mathematics to the design of physical environments such as bridges, buildings, and dams

• Knowledge of the interactions among land use, water use, and environment quality

• Work independently and in teams

• Team work - work with other students on a project

• Oral and written communication - engineering report writing skills and presentation skills

• Leadership

• Time management and organization – manage several ongoing projects

Where could I go after graduation?

• Archaeology

• Architecture

• Environmental engineering

• Design engineer

• Geographic information systems

• Geomatics

• Industrial engineering

• International development

• Landscape architecture

• Mapping, surveying & cartography

• Materials engineering

• Mining engineering

• Occupational health and safety

• Public administration

• Real estate

• Robotics

• Strategic planning

• Structural engineer

• Water resources engineering

• Urban and regional planning

Taking time to explore career options, build experience, and network can help you have a smoother transition to the world of work after graduation.

*Some careers may require additional training. Listed careers are only suggestions.

Visit careers.queensu.ca/majormaps for the online version with links!