Get to know CIVIL ENGINEERING

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, hydro-electrical and geotechnical streams.

That is a degree from Queen's.
civil.queensu.ca

How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. The map just offers suggestions—you don’t have to do it all! To make your own custom map, use the My Major Map tool.

Get started thinking about the future now—where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources—our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally, and Queen’s wants you to succeed! Check out the Student Affairs website for available resources.

Civil Engineering

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 (IOE through the CUAC, Ontario University Application Centre) website. Secondary School prerequisites include five 4U 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
Knowledge of

• This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Major Map using our online My Major Map tool.

GET THE COURSES YOU NEED

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!

GET RELEVANT EXPERIENCE

Join teams or clubs on campus such as the Concrete Canoe Team.

See the AMS Clubs Directory or the Queen’s Get Involved page for more ideas.

GET CONNECTED WITH THE COMMUNITY

Volunteer on or off campus with different community organizations, such as Let’s Talk Science (LTS), Science Quest, and Engineers without Borders (EWB).

Consider joining an intramural sports or an athletics team. Check out the Athletics & Recreation site.

GET THINKING глOBALLY

Speak to a QUIC advisor or get involved in their programs, events and training opportunities.

Prepare for work or studies in a multi-cultural environment by taking the QUIC and Four Directions Aboriginal Student Centre’s Training Certificates, and research possible immigration regulations.

GET READY FOR LIFE AFTER GRADUATION

Grappling with program decisions? Go to the Orientation Evenings held by different Engineering departments and attend the various Career Fairs during the year.

Get some help wondering about career options from Career Services.

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.

Stay during the summer as an assistant to a faculty member or apply for an external summer research opportunity. If interested, apply to do a 12-16 month QUIP internship between your third and fourth year.

Civil also offers a Job Network and Industry Open House which students are encouraged to attend.

Get involved with the Engineering Society (ENGSC). Start or continue volunteering with organizations such as the Commerce & Engineering Environmental Conference (CEEC).

Consider joining professional associations like Canadian Society for Civil Engineering (CSCE).

Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a 3 year exchange through your faculty’s International Office.

Explore different careers of interest by reading books in the Career Services Career Advising and Resource Area, such as Civil Engineering Careers. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get help thinking about grad school from Career Services.

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.

International students interested in staying in Canada can speak with an International Student Advisor.

Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

Consider registering with Professional Engineers Ontario (PEO). Join groups on LinkedIn reflecting specific careers or topics of interest in Civil Engineering.

Investigate requirements for full-time jobs or other opportunities related to careers of interest.

Assess what experience you’re lacking and fill in gaps with volunteering, clubs, or internships – check out Career Services workshops for help.

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.