

CIVIL ENGINEER



ANNUAL SALARY: \$46,000 - \$98,000* | NOC: 2131 | Construction Management

* From PayScale (http://www.payscale.com/research/CA/Job=Civil_Engineer/Salary). Does not include any benefits.

WHAT WE DO

Civil engineers are responsible to plan for, design, develop and manage the construction and repair of buildings and other structures. They look at foundations, conduct inspections of buildings for clients, and perform other work like determining project requirements, construction specifications, and needed materials. If surveying is necessary, they may conduct technical analyses of data and compile reports.

Other duties can come up in the course of their work depending on if they specialize in certain areas or are working as a more senior project engineer. There may be other technicians, technologists or engineers under their supervision, requiring them to have **skills for coordination and communicating within a team**. Civil engineers will also **review and approve designs, calculations, and costs associated with projects**.

Many work for engineering consulting companies, construction companies, the government, and other industries, but other civil engineers may be self-employed. **Safety awareness** should be an important consideration for them at all times, and they must be prepared to spend **long hours outdoors in the field**. In order to practice, it is necessary to be registered with the provincial association of engineers.¹

PREPARATORY WORK

- Research the labour market
- Complete a cooperative education program or job shadow while in high school
- Obtain your high school diploma or equivalency
- Might find employment and obtain trade designation or experience working as a supervisor in trades prior to entering into engineering studies
- Obtain education in engineering leading to professional designation:
 - Dalhousie University (<http://www.dal.ca>) offers a Bachelor of Engineering in Civil Engineering and Master of Engineering in Civil Engineering
 - Saint Mary's University (<http://www.smu.ca>) offers a three-year Bachelor of Science (General) with Diploma of Engineering (providing the first two years of an engineering degree in partnership with Dalhousie) and four-year Bachelor of Science/Diploma of Engineering with a major in mathematics
- Obtain professional designation as an engineer through Engineers Nova Scotia (<http://www.engineersnovascotia.ca>). Requirements are:
 - Complete an undergraduate degree in engineering from a Canadian Engineering Accreditation Board (<http://www.engineerscanada.ca>) approved postsecondary institute
 - Apply to become an Engineer-in-Training (EIT)
 - Complete four years of experience with supervision
 - Complete the National Professional Practice Exam (NPPE) (<http://www.apega.ca>)

¹ <http://www5.hrsdc.gc.ca> and <http://www.careersinconstruction.ca/en/career/fieldproject-engineer>

CIVIL ENGINEERS' CAREER PATHWAY

Pursuing Trade Designation or Trade Employment: Refer to trade pathways for trades represented in the construction industry.

Cooperative Education: Grades 10, 11 and 12 and at least 16 years of age to be eligible.

Job Shadow: Find a mentor to job shadow while still enrolled in high school.

Grade Twelve Diploma or Equivalent

Other Education Programs:
Complete a university program for experience and related technical training.

Engineering Education:
Bachelor of Civil Engineering
Bachelor of Science
Master of Civil Engineering

Professional Engineer Designation in Nova Scotia (through Engineers Nova Scotia).

- 1) *Completion of undergraduate degree.*
- 2) *4 years as EIT and completion of NPPE.*

Progression to Senior Civil Engineer Role

Note: Civil engineers are required to have professional certification in order to work in the province of Nova Scotia