

Structural Engineer

Make sure buildings and bridges stand up. A civil engineering specialty with a master's, a stamp, and the liability that comes with it.

TYPICAL PAY

\$95,000

a year, full time

PAY RANGE

\$70k to \$140k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Good

job outlook

LICENCE NEEDED

Yes

regulated job

WHERE YOU WORK

Consulting firms, construction sites, government, architecture fir...

How you get there

- 1 High school** Grades 11 and 12
 Advanced Functions, Calculus, Physics and Chemistry are required for admission. Marks in the high 80s or above at most schools.
- 2 Civil engineering degree** 4 to 5 years with co-op
 Structural is a specialty of civil engineering. Take the structural stream in third and fourth year at any accredited civil program: Toronto, Waterloo, UBC (University of British Columbia), McGill, Alberta, Calgary, Queen's, McMaster and many others.
- 3 Master's in structural engineering** 1 to 2 years
 Steel, concrete, timber and seismic design in depth. Not legally required, but most big firms prefer it.
- 4 Engineer-in-training** About 4 years
 Register as an engineer-in-training (EIT). Work under a licensed structural engineer: check calculations, coordinate drawings, visit sites.
- 5 Exam and P.Eng (professional engineer) licence** After 4 years
 Pass the professional practice exam, then apply with your experience record. Now you can seal drawings and carry legal responsibility for the structure.

Pros and cons

- + Your name goes on real buildings and bridges
- + A respected specialty; other engineers defer to you
- + Steady demand from housing, transit and infrastructure
- The most liability of any engineering job: if it fails, it is on you
- A master's is usually expected, so a year or two more school
- Deadline crunches before permits and concrete pours

Good to know

Vancouver is waiting for the big one

The BC coast sits on the Cascadia subduction zone, where a magnitude 9 earthquake is possible. BC has spent billions upgrading schools so they will not collapse. Structural engineers do that work.

Elliot Lake

In 2012 the roof of the Algo Centre Mall in Elliot Lake, Ontario collapsed and killed two people. A public inquiry found that engineers had signed off on a structure that was rusting through. Every structural e...

Optional boosts

Designated Structural Engineer (BC). Seismic design. Bridge design. Mass timber.

Where these numbers come from

Job Bank: Civil engineers (includes structural), wages (updated Nov 2025)
 Engineers Canada
 Professional Engineers Ontario
 Engineers and Geoscientists BC

Numbers checked September 2026. Pay figures are typical full-time annual amounts in Canadian dollars, based on Government of Canada Job Bank wage data and published salary grids. They vary by province, employer and experience. Tuition is for domestic students. Sources, links and the click-through version: <https://career.help/ca/careers/structural-engineer>



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