

Computer Engineer

Where hardware meets software: chips, embedded systems and the code that runs on them. Many never bother with the licence.

TYPICAL PAY

\$100,000

a year, full time

PAY RANGE

\$70k to \$150k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Good

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

**Tech companies, chip design
offices, telecom, startups**

How you get there

- 1 High school** Grades 11 and 12
Advanced Functions, Calculus, Physics and Chemistry are required. Marks in the low 90s at Waterloo and Toronto, high 80s elsewhere.
- 2 Accredited computer engineering degree** 4 to 5 years with co-op
A four-year Bachelor of Engineering or Applied Science at a school accredited by the Canadian Engineering Accreditation Board. Circuits, digital logic, operating systems and a lot of programming.
- 3 Co-op and internships** During school
Employers care more about what you have built and where you interned than your marks. Waterloo runs six work terms.
- 4 First job** Final year
Most grads take a hardware, firmware or software job and never register with a regulator.
- 5 P.Eng (professional engineer) licence, optional** 4 years, if you choose to
About 4 years as an EIT (engineer-in-training) plus an ethics exam. Worth it if you design safety-critical hardware for medical, power or avionics, or want to use the title engineer.

Pros and cons

- + Highest co-op and new-grad pay of any engineering discipline
- + Qualifies you for both hardware and software jobs
- + No licence needed for most of the work
- The hardest admission averages in engineering
- Hardware jobs in Canada are fewer than software jobs
- Hiring is cyclical, junior roles got harder to land after 2022

Good to know

BlackBerry started with a Waterloo student

Mike Lazaridis founded Research In Motion in Waterloo in 1984 while still an engineering student, weeks before he would have graduated. Its BlackBerry phones once ran the world's business email.

Markham designs graphics chips

ATI (a graphics chip maker) was founded in Markham, Ontario, in 1985 and grew into one of the two big names in graphics chips. AMD (a chip company) bought it in 2006, and the Markham site is still one of the l...

Optional boosts

Chip and FPGA (field-programmable gate array) design. Embedded and real-time systems. Machine learning hardware and systems. Cloud certifications.

Where these numbers come from

Job Bank: Computer engineers (except software), wages (updated Nov 2025)

Engineers Canada: Overview of the licensing process

Professional Engineers Ontario: fee schedule (PDF, Nov 2022)

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/computer-engineer>



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