

Professional Engineers (General)

A guide for newcomers to British Columbia



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1. Working as a Professional Engineer [NOC 2021: 21399 / NOC 2016: 2148]

Job Description

This group includes agricultural and bio-resource engineers, biomedical engineers, engineering physicists and engineering scientists, marine and naval engineers, textile engineers and other specialized engineering occupations.

Agricultural and bio-resource engineers

- design and develop machinery, equipment and systems related to agriculture and food processing

Biomedical engineers

- design and develop medical diagnostic and clinical equipment and procedures
- develop devices to assist persons with disabilities
- advise hospital administrators on planning and use of medical equipment
- modify and install or supervise installation of equipment

Engineering physicists and engineering scientists

- conduct research and develop processes, programs and equipment to expand knowledge in the applied sciences and engineering and to support advanced engineering and scientific applications

Marine and naval engineers (or naval architects)

- design and develop marine vessels, floating structures and associated marine power plants; design and develop propulsion systems and equipment
- oversee the building, maintenance and repair of vessels and marine systems

Textile engineers

- design and develop processes, equipment and procedures for the production of fibers, yarns and textiles

Source: National Occupation Classification

<https://noc.esdc.gc.ca/>

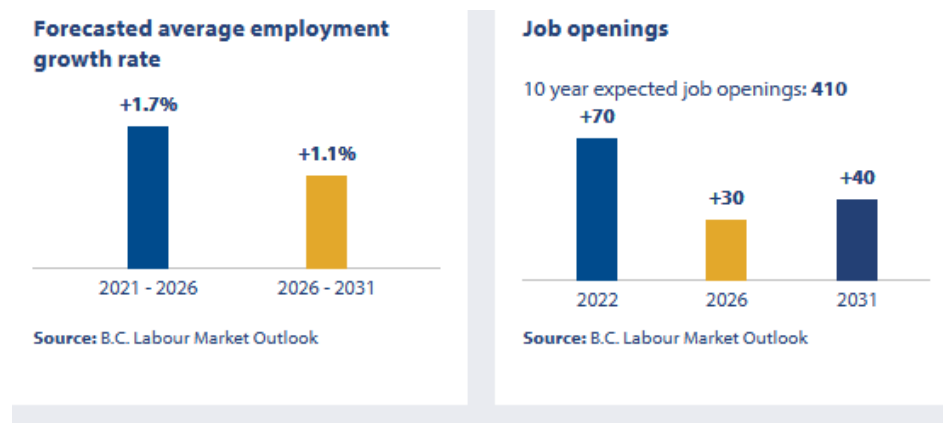
Industry Overview

In British Columbia, job opportunities for qualified and experienced engineers in all sectors are expected to be good for the 2021 to 2023 period.

410 job openings are forecast between 2021 and 2031. Most employment is found in the Lower Mainland/Southwest region of the province.

Job Outlook in BC

Professional engineers General



Composition of job openings



Chart from WorkBC

WorkBC provides job openings in BC regions from 2021-2031:

Region	Employment in 2021	Average Annual Employment Growth 2021-2031	Expected Number of Job Openings 2021-2031
Vancouver Island	250	0.9%	80
Lower Mainland / Southwest	780	1.6%	290
Thompson-Okanagan	80	0.9%	20

You can learn more about working as a Professional Engineer BC from

- **WorkBC, Career Profiles**

<https://www.workbc.ca/Jobs-Careers/Explore-Careers.aspx>

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- **Career Cruising database** [search Engineer to locate various career profiles]
Available from the VPL Digital Library | Explore our Digital Library page:
<https://www.vpl.ca/digital-library/career-cruising>

Types of Employers

Engineers work for:

- consulting engineering firms
- manufacturing companies
- construction companies
- government
- many other types of industries

You may also be self-employed.

Engineers often work in a multidisciplinary environment. This work experience helps you acquire the knowledge and skills that allow you to practice in associated areas of science, sales, marketing or management.

Salary

In BC, the median annual salary for professional engineers is \$90,244. Your salary depends on education, experience, industry and employer. You generally earn more if you have a master's degree or PhD.

Most full-time engineers also receive benefits such as dental coverage, paid sick days and vacation time, and pension plans.

Sources: WorkBC and *Career Cruising* database (Profile for Engineer)

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In BC regions you can expect to make:

Community/Area	Wages (\$/hour)		
	Low	Median	High
British Columbia	25.15	43.27	64.00
Lower Mainland–Southwest Region	29.49	47.18	64.00
Vancouver Island and Coast Region	25.15	43.27	64.00

Source: Job Bank, Wages <https://www.jobbank.gc.ca/trend-analysis/search-wages>

Working Hours

You generally work between 8 and 10 hours a day, 40 to 50 hours a week. However, you may have to work nights and weekends if an important deadline is approaching or if an urgent problem arises.

2. Skills, Education and Experience

Skills

- You should be creative, innovative, analytical, and detail-orientated
- Good at problem solving
- Strong critical thinking abilities
- Experience with project management
- Able to work well individually and as part of a team
- Ability to write proposals and make presentations
- Committee work- industry ethics

Education and Experience

To work as a Professional Engineer you require:

- a Bachelor's degree in an engineering discipline
- licensing by Engineers & Geoscientists British Columbia in order to practise as a *Professional Engineer (P.Eng)*

You may also require:

- a Master's degree or doctorate in a related engineering discipline

Qualifications

This occupation is regulated in British Columbia.

You must be registered with **Engineers & Geoscientists British Columbia** to use the title *Professional Engineer* in BC.

However, you can work in engineering, even if you haven't been licensed by a professional engineering association, as long as you are supervised by a professional engineer (P.Eng).

Only licensed engineers are permitted to undertake and assume responsibility for engineering projects in BC. Licensing is required to approve engineering drawings and reports, and to practise as a Professional Engineer (P. Eng.)

Registration requires:

- graduation from an accredited educational program
- four years of supervised work experience in engineering
- successfully passing the professional practice examination
- completion of the law and ethics seminar

How to apply:

- **Engineers & Geoscientists British Columbia – How to Apply**
<https://www.egbc.ca/Registration/Individual-Registrants/How-to-Apply>

If you do not meet the minimum academic requirements for P.Eng, you may register as **Professional Licensee (P.L.Eng)**, which requires:

- academic qualifications other than an engineering degree from a recognized university
- several years of experience in a defined area of engineering practice

For more information:

- **Engineers & Geoscientists British Columbia – Professional Membership & Licence**
<https://www.egbc.ca/Registration/Individual-Registrants/How-to-Apply/Professional-Membership-and-Licence>
 - **Bridging Pilot Program:** Program to assist Professional Licensee Engineers (P.L.Eng) apply to bridge to Professional Engineer (P.Eng)
<https://www.egbc.ca/Registration/Individual-Registrants/How-to-Apply/Bridging-Pilot-Program>
 - **Self-Assessment Tool**
Online self-assessment tool to assist *internationally trained professionals* enter the profession of engineering in BC.
<https://www.egbc.ca/Registration/Programs-Resources/Self-Assessment-Tool>
- **Engineer Here – Becoming a Licensed Engineer in Canada**
<https://engineerhere.ca/>
- **International agreements** between professional engineering associations
<https://engineerscanada.ca/become-an-engineer/agreements-on-international-mobility>

3. Finding Jobs

You'll find job advertisements in local newspapers, electronic sources, and through professional associations.

Local Newspapers

You can look at the Vancouver Sun and The Province at Vancouver Public Library for free. Check the job postings daily and the careers section in the Vancouver Sun on Wednesdays and Saturdays and in The Province on Sundays.

Online Job Postings

- **Engineering Careers**
<https://www.engineeringcareers.ca>

- **Indeed**
<https://ca.indeed.com/>
- **Talent.com**
<https://ca.talent.com>

Professional Associations' Career Resources

- **Association of Consulting Engineering Companies British Columbia (ACEC-BC)**
<https://acec-bc.ca/resources/>
- **Engineers & Geoscientists British Columbia Employment Centre**
<https://www.eqbc.ca/Careers/Career-Listings>

Identifying the Right Position

When you browse job advertisements, you'll find a range of different job titles that are relevant.

For professional engineers (general), look for these related job titles (from NOC):

- food processing engineer
- clinical engineer
- biomedical engineer
- agricultural engineer
- naval engineer
- marine engineer

Creating a List of Potential Employers

You can use directories to produce lists of companies in the Lower Mainland or BC in the engineering services sector. Contact them directly to find out if they're hiring.

- **Association of Consulting Engineering Companies British Columbia,**
Directory of Member Firms
<https://acec-bc.ca/membership/>

- **Engineers & Geoscientists British Columbia Membership Directory**
<https://www.egbc.ca/Registrant-Directory>
- **Business in Vancouver. Book of Lists.**
Biggest Engineering Firms in BC
Available at the Central Library 338.9711 B97b
- **Reference Canada**
Click on "Start Search" beside Canadian Businesses, then select the "Advanced Search" button. Select both "Keyword/SIC/NAICS" under Business Type and "City" under Geography. In the top search box enter "Engineers" or "Marine Engineers" and click SEARCH. Select the appropriate headings. Lower down, select the Province, choose the cities, and click the "View Results" button.
Available from the VPL Digital Library | Explore our Digital Library page:
<https://www.vpl.ca/digital-library/reference-canada>

NOTE: *You can access this database from the Central Library or at our branches. If you are using a computer from home or outside the library, you will need a Vancouver Public Library card to login to this database. After clicking on the database name, you will be asked to enter your library card number and PIN (usually last four digits of your telephone number).*

4. Applying for a Job

In Canada, employers usually expect to receive a resume (curriculum vitae) and a cover letter that identifies the position you are applying for and summarizes your relevant experience.

Use the library catalogue, <https://vpl.bibliocommons.com/> to find books on writing resumes and cover letters specific to your industry.

To learn about applying for jobs in Canada, use the following guides which are available in print at the Central Library or online at <https://www.vpl.ca/siic/>.

- **Writing Resumes and Cover Letters**
<https://www.vpl.ca/siic/guide/job-search-resources/writing-resumes-and-cover-letters>
- **Getting Canadian Work Experience**
<https://www.vpl.ca/siic/guide/job-search-resources/getting-canadian-work-experience>
- **Networking for Employment**
<https://www.vpl.ca/siic/guide/job-search-resources/networking-for-employment>
- **Learn More About Working in BC and Canada**
<https://www.vpl.ca/siic/guide/job-search-resources/learn-more-about-working-in-bc-and-canada>

5. Getting Help from Industry Sources

Industry Associations

Associations for professional engineers in BC and Canada provide information & assistance. Registration and fees are required for membership.

- **Association of Consulting Engineers Companies of British Columbia**
<https://acec-bc.ca/>
- **Engineers & Geoscientists British Columbia**
<https://www.egbc.ca/>
- **Engineering Institute of Canada (EIC)**
<https://eic-ici.ca/>
- **Engineers Canada, Canadian Council of Professional Engineers (CCPE)**
<https://engineerscanada.ca/>
- **Society of Punjabi Engineers and Technologists of British Columbia**
<https://speatbc.org/>

Industry Journals

Search the Vancouver Public Library catalogue for journals related to your profession and specific engineering disciplines. Examples include:

- **Canadian Consulting Engineer** / Association of Consulting Engineers of
<https://www.canadianconsultingengineer.com/>
- **Innovation** / Engineers & Geoscientists British Columbia
Available at VPL Central Library, 620.5 B86 and online at:
<https://www.egbc.ca/About/Publications/Innovation/Innovation-Past-Issues>

**Questions? Please ask the Information Staff in the Central Library,
Vancouver Public Library or telephone 604-331-3603.**

Please note that the information in this guide is also available online through the Skilled Immigrant InfoCentre website at <https://www.vpl.ca/siic>.