

# Chemical Engineers

A guide for newcomers to British Columbia



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## 1. Working as a Chemical Engineer [NOC 2021: 21320]

### Job Description

Chemical engineers apply the principles of chemistry and other sciences in order to solve practical problems for a wide range of industries. Examples include helping companies use chemicals to produce everything from gasoline to food products.

As a chemical engineer, you perform the following duties:

- Conduct research into the development or improvement of chemical engineering processes and materials
- Design machines and processes to produce products or chemical effects, such as refining oil
- Oversee the construction, operation, and maintenance of the machinery
- Supervise technicians, technologists and other engineers
- Develop new products and safety testing techniques
- Carry out economic and technical feasibility studies

You may specialize in a specific industry, working with products and processes in:

- pulp and paper manufacturing
- pharmaceuticals
- petroleum refining
- energy processing
- plastics, adhesives and coatings production
- metal extraction and refining

Or you may specialize in an area that applies to various industries such as:

- process control
- pollution control
- fermentation processes

More information:

- **WorkBC Career Profile for Chemical Engineers**  
<https://www.workbc.ca/career-profiles/chemical-engineers>
- **Career Cruising (Profile for Chemical Engineer)**  
<https://www.vpl.ca/digital-library/career-cruising>  
Available from the VPL Digital Library
- **Your Degree in Chemical Engineering [University of British Columbia]**  
<https://students.ubc.ca/career/your-degree/engineering/chemical-engineering>

### ***Industry Overview***

There are approximately 1,050 people working as Chemical Engineers in British Columbia. Job prospects are expected to be moderate for the 2023 to 2025 period. Almost 80% of chemical engineering jobs are in the Mainland/Southwest region of the Province. Job prospects are considered very good in the Thompson Okanagan region.

Environmental protection is an area with considerable potential for employment growth. This specialization is relatively new and is still undergoing development.

More information:

- Job Bank Canada  
<https://www.jobbank.gc.ca/marketreport/outlook-occupation/2789/BC>
- WorkBC Career Profile

**Job Outlook in BC**

**Employment Outlook Chemical Engineers**

**Forecasted Job Openings (2023-2033)**

**330**

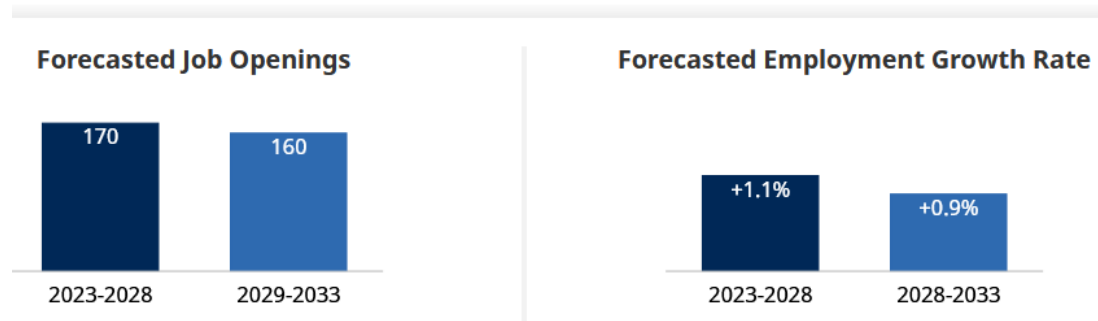


Chart from WorkBC

WorkBC provides job openings in BC regions:

Region	Employment in 2023	Average Annual Employment Growth 2023-2033	Expected Number of Job Openings 2023-2033
Vancouver Island	45	0.0%	20
Lower Mainland / Southwest	810	1.2%	240
Thompson-Okanagan	75	0.8%	40
Cariboo	25	0.7%	10
Kootenay	40	-0.3%	20

**Types of Employers**

Chemical Engineers are employed in a wide range of organizations including:

- manufacturing and processing industries
- consulting firms
- government
- research organizations

## Chemical Engineers

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- educational institutions
- professional, scientific or technical businesses

You can work for companies ranging from huge oil refineries to small breweries.

### **Salary**

The median annual salary for chemical engineers working full-time in BC is \$99,650. Your salary depends on experience, level of education, location, and employer.

In addition to a salary, most full-time engineers receive health and dental benefits, paid sick days, and paid vacations.

Sources: WorkBC & Career Cruising

In BC regions, you can expect to make:

Community/Area	Low (\$/hour)	Median (\$/hour)	High (\$/hour)
<a href="#">British Columbia</a>	23.13	47.78	75.50
<a href="#">Lower Mainland–Southwest Region</a>	17.40	42.31	72.12

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

### **Working Hours**

Chemical engineers usually work full-time, 8 to 9 hours a day, and 40 to 50 hours a week.

Evening and weekend work is rare but may be required in emergencies.

Source: Career Cruising

## 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

### ***Education and Experience***

- Bachelor's degree in chemical engineering or in a related engineering is required
- Master's degree or doctorate in a related engineering discipline **may be** required

### ***Qualifications***

#### ***This occupation is regulated in British Columbia***

It is mandatory to be registered with *Engineers & Geoscientists BC* to call yourself an engineer or practice engineering in BC.

#### **Licensing Requirements for Chemical Engineers**

You must be licensed by ***Engineers & Geoscientists British Columbia*** to use the title "Professional Engineer." This allows you 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

## Chemical Engineers

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- 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>

There are designations other than the P.Eng. that might apply to your situation:

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

OR

You may register as an **Engineer-in-Training (EIT)**:

- if you meet the academic requirements but do not yet have the work experience required to apply for the P.Eng
- you are in the process of acquiring the required 4 years of work experience

For more information:

- **Engineers & Geoscientists British Columbia – Register as an Engineer**  
<https://www.egbc.ca/how-to-apply/register-as-an-engineer/professional-engineer/apply-to-be-a-professional-engineer-in-bc>
- **Bridging Pilot Program:** Program to assist Professional Licensee Engineers (P.L.Eng) apply to bridge to Professional Engineer (P.Eng)  
<https://www.egbc.ca/how-to-apply/register-as-an-engineer/professional-licensee-engineering/bridging-pilot-program>
- **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, trade journals, and electronic sources, as well as through professional association publications.

#### ***Local Newspapers***

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

#### ***Online Job Postings***

- **Indeed.com**  
[https://ca.indeed.com/advanced\\_search](https://ca.indeed.com/advanced_search)
- **BC Tech Jobs**  
<https://www.bctechjobs.ca>

#### ***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://apps.egbc.ca/career-ad-listings>
- **Engineers Canada**  
<https://www.engineeringcareers.ca/>
- **Chemical Institute of Canada**  
<https://www.cheminst.ca/job-board/>  
Membership required



### ***Identifying the Right Position***

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

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

- biochemical engineer
- chemical process engineer
- environmental chemical engineer
- industrial hygiene engineer
- petrochemical engineer
- polymer engineer
- process control engineer, chemical
- refinery engineer
- waste treatment engineer

### ***Creating a List of Potential Employers***

You can use directories to produce lists of employers in Metro Vancouver or BC. Contact them directly to find out if they're hiring.

- **Association of Consulting Engineering Companies BC**  
Directory of Member Firms  
<https://acec-bc.ca/corporate-members/>
- **Engineers & Geoscientists British Columbia**  
<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**  
<https://www.vpl.ca/digital-library/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 "chemical engineer" 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

***NOTE:** You can access this database from a Library computer. If you are using a computer from 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 or 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 and chemical engineers in BC and Canada can provide information and assistance. Registration and fees are required for membership.

- **Association of Consulting Engineers Companies of British Columbia**  
<https://acec-bc.ca/>
- **Engineers & Geoscientists British Columbia (formerly APEGBC)**  
<https://www.egbc.ca/>
- **Engineering Institute of Canada (EIC)**  
<https://eic-ici.ca/>
- **Engineers Canada**  
<https://engineerscanada.ca/>
- **Society of Punjabi Engineers and Technologists of British Columbia**  
<https://speatbc.org/>
- **Chemical Institute of Canada (CIC)**  
<https://www.cheminst.ca/>
- **Canadian Society for Chemical Engineering**  
<https://www.cheminst.ca/about/about-csche/>

### *Industry Journals*

Search for journals related to your profession. Some titles at the Vancouver Public Library and online include:

- **Canadian Consulting Engineer** / Association of Consulting Engineers of Canada. Available online at:  
<https://www.canadianconsultingengineer.com/digital-edition/>
- **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>

**Chemical Engineers**  
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- **Chemical Engineering Process (CEP)**

Available online at:

<https://www.aiche.org/publications/cep>

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***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/>.*