

Physicists

A guide for newcomers to British Columbia



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1. Working as a Physicist

[NOC 2021: 21100/ NOC 2016: 2111]

Job Description

Physicists conduct research to gain knowledge of the natural world and to develop new processes and devices in fields such as electronics, communications, power generation, aerodynamics, medicine and health.

As a physicist, you perform the following duties:

- design and carry out research in experimental and theoretical physics
- carry out analysis of research data and prepare research reports
- participate as a member of a research or development team
- create and design industrial or medical equipment, instrumentation and procedures

Source:

- WorkBC Career Profiles <https://www.workbc.ca/plan-career/explore-careers>

Industry Overview

Physicists make up a small part of BC's workforce. In 2016 only 400 individuals were employed in this sector.

Physicists

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Most jobs are located in the Lower Mainland/ Southwest region of the province. Limited employment opportunities may also be found in the Vancouver Island and Thompson-Okanagan regions.

As a physicist, you may work closely with and perform some of the duties of engineers. Also, movement between specializations within physics and other fields of science, such as meteorology and geophysics, is possible with experience.

Job Outlook in BC

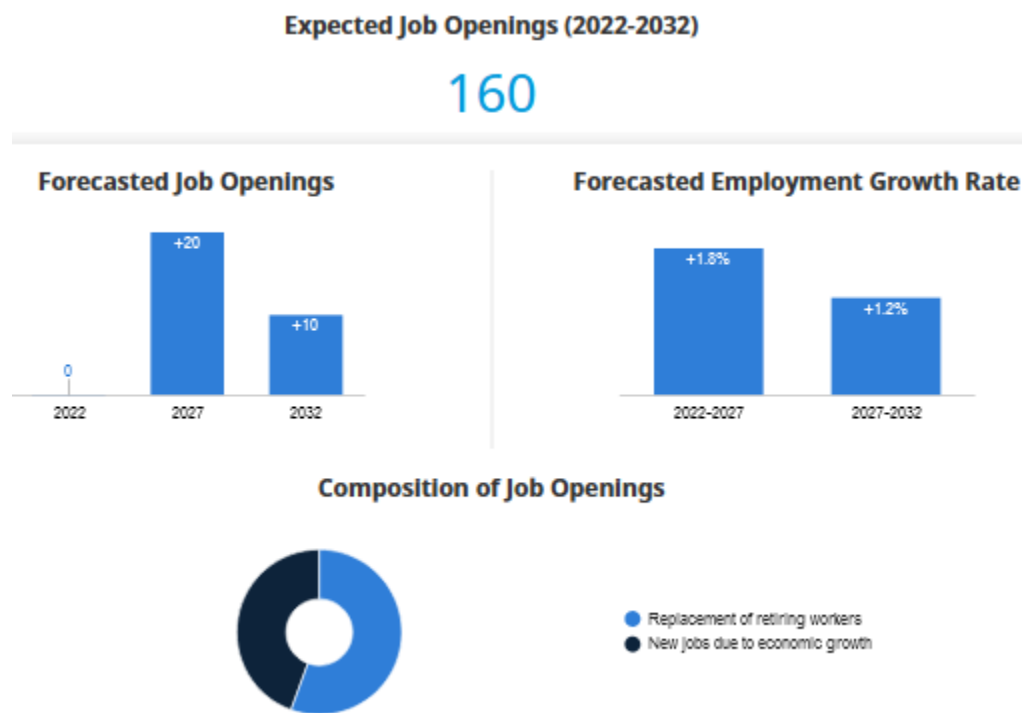


Chart from Work BC

WorkBC provides job openings in BC regions from 2022-2032:

Region	Employment in 2022	Average Annual Employment Growth	Expected Number of Job Openings
Vancouver Island	90	1.1%	0
Lower Mainland / Southwest	350	1.6%	120

You can learn more about working as a physicist in BC and Canada from:

- **WorkBC, Career Profiles – Physicists & Astronomers**
<https://www.workbc.ca/career-profiles/physicists-and-astronomers>
- **Canadian Association of Physicists. Physics Careers**
<https://careers.cap.ca/careers.html>
- **Career Cruising** (Profile for Physicist)
Available from the VPL Digital Library
<https://www.vpl.ca/digital-library/career-cruising>

Types of Employers

Physicists are employed by:

- electronic, electrical and aerospace manufacturing companies
- telecommunications companies
- power utilities
- universities and government research laboratories
- hospitals
- a wide range of other manufacturing, research and consulting firms

Salary

The median annual salary for physicists working full time in BC is \$108,931. Your salary depends on your level of education, experience, and the industry in which you work.

Provincial Hourly Rate

High	\$75.29/hr
Median	\$52.23/hr
Low	\$29.77/hr

Source: WorkBC

Working Hours

Hours usually range from 8 to 10 hours a day, 40 to 60 hours a week. Overtime and weekend work is fairly common, especially when a project is nearing completion. Job-related travel usually takes up 1 to 3 weeks a year.

Source: Career Cruising

2. Skills, Education and Experience

Skills

- Patient and persistent
- Imaginative ,curious, inventive
- Problem-solving skills
- Analytical
- Strong verbal and written communication skills
- Enjoyment working with mathematics and computers
- Ability to work as part of a team

Source: Canadian Association of Physicists <https://careers.cap.ca/becomeaphysicist.html>

Education and Experience

- Physicists usually require a master's or doctoral degree in a field of physics, engineering physics, or in a related discipline.
- A PhD is typically required for physicists in research and development positions. Those with master's degrees may find work in physics related research and development positions in private industry.

Sources: Career Cruising & WorkBC

Qualifications

Licensing Requirements for Physicists

The profession of physicist is **not regulated** in British Columbia and employment qualification requirements are set by individual employers.

However, professional members of the **Canadian Association of Physicists** (CAP) can apply for *Professional Physicist* certification.

Designation as a *Professional Physicist* allows you to use the letters "*P.Phys.*" to show that you possess the qualities and experience required to make judgement calls with respect to scientific matters in your particular field. Applicants must:

- be of good character and at least 18 years of age
- be a CAP member (and maintain membership while licensed)
- meet education standards established by the CAP
- meet physics experience requirements established by the CAP (minimum of three years of recent physics-related work experience after graduation)
- agree to uphold CAP's Code of Ethics for holders of the Professional Physicist designation
- pass (unless exempted) the Professional Practice Examination (PPE)

<https://www.cap.ca/programs/pphys-certification/professional-practice-exam-ppe/>

For information about becoming a member of the CAP or for qualifying for *P. Phys* certification, contact the Association at:

- **Canadian Association of Physicists**
<https://www.cap.ca/programs/pphys-certification/>

3. Finding Jobs

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

Local Newspapers

You can look at the *Vancouver Sun* & *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**
<https://ca.indeed.com/>
- **National Research Council Canada**
<https://nrc.canada.ca/en/corporate/careers>
Career opportunities across Canada with the National Research Council
- **New Scientist Jobs**
<https://jobs.newscientist.com>
Can search by province and category (physics)
- **Physicstoday.org**
<https://jobs.physicstoday.org/>
Job openings across Canada and the United States.

Professional Associations' Career Resources

- **Canadian Association of Physicists**
<https://www.cap.ca/programs/careers-and-employment/physics-careers/employment-opportunities/>
Employment opportunities for physicists across Canada
- **Canadian Organization of Medical Physicists**
<https://comp-ocpm.ca/english/career-centre>
Job opportunities for medical physicists across Canada

Identifying the Right Position

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

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

- Aerodynamicist
- Biophysicist
- Cosmologist
- Medical Physicist
- Research Scientist, Aerospace
- Research Scientist, Electronics
- Research Scientist, Remote Sensing

Source : NOC, <https://noc.esdc.gc.ca/>

Creating a List of Potential Employers

You can use directories to produce lists of companies who employ physicists in Vancouver or the Lower Mainland. Contact them directly to find out if they're hiring.

- **Directory of Canadian Universities. Universities Canada.**
Available at the Central Library, 378.705 Y39 and online at:
<https://www.univcan.ca/universities/member-universities/>
- **Research Means Business : a Directory of Companies Built on NSERC-Supported University Research**
<https://publications.gc.ca/site/eng/9.687716/publication.html>

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 physicists in BC and Canada provide information and assistance. Registration and fees are required for membership.

- **British Columbia Association of Medical Physicists**
<http://www.bcmedphys.ca/>
- **Canadian Association of Physicists (CAP)**
<https://www.cap.ca/>
- **Canadian Astronomical Society**
<https://casca.ca/>
- **Canadian Organization of Medical Physicists (COMP)**
<https://comp-ocpm.ca/>

Industry Journals

Industry journals provide information about trends in the industry. Search the Vancouver Public Library catalogue for journals related to your profession. An example includes:

- **Physics in Canada**
Available online at:
<https://pic-pac.cap.ca/>

***Questions? Please ask the Information Staff in the Central Branch,
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> .