

CAREER ZONE: HEALTH CARE

Helping High School Students Prepare
for a Career in the Health Care Sector



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THIS GUIDE

This guide provides general background on the British Columbian and Canadian health care sector, specific information on the three primary sub-sectors and sample bundles of high school and post-secondary courses and training. It illustrates how high schools, post-secondary institutions, industry partners and employers can work together to help students qualify for a career in health care. The guide provides suggestions for pathways students can follow to enter their chosen career.

This guide is only an *introduction* to the job and career possibilities in this sector. More detailed information is available from both general and sector-specific sources mentioned throughout this guide.

WHAT IS A CAREER ZONE?

A Career Zone is a group of courses, certifications and work opportunities that BC high schools can develop to help students in Grades 11 and 12 get ready to pursue a career within a particular industry, while still meeting provincial requirements for graduation.

By working within a Career Zone in high school, students have the opportunity to:

- Select courses that match their specific skills, interests and career goals.
- Complete the pre-requisites they will need to enter the post-secondary certificate, diploma or degree program of their choice.
- Take dual credit courses for a career head start and smooth transition to post secondary learning.
- Obtain industry-recognized career-preparation certifications.
- Acquire work experience relevant to those career goals.





WHAT'S INCLUDED IN A CAREER ZONE?

A Career Zone includes a broad range of core courses and career-specific electives, industry-recognized certifications and work experience placements intended to prepare students for the careers they want, while they are still in high school.

Individual BC School Districts are encouraged to develop their own Career Zones, based on local labour market needs, student interests, industry and post-secondary partnerships, and local work experience opportunities.

Career Zones should include:

- Mathematics, Language Arts and Science courses at the Grade 11 and Grade 12 levels
- An Applied Skills elective at the Grade 11 or Grade 12 level
- Where available, a variety of transition opportunities, including:
 - « dual credit courses
 - « Board/Authority Authorized (BAA) courses
 - « Independent Directed Studies
 - « Advanced Placement courses
 - « Work Experience 12A and 12B, and other workplace training opportunities, including volunteering, co-op placements and summer internships
- Industry-recognized career preparation certifications, such as FOODSAFE, CPR, First Aid or Workplace Hazardous Materials Information System (WHMIS)

IS THERE ONLY ONE ROUTE WITHIN A CAREER ZONE?

Depending on their specific career goals, students have four basic routes to choose from after graduation:

- Apprenticeship route
- Certificate or diploma route
- Degree route
- Direct-to-work route

INDUSTRY TRAINING AUTHORITY PROGRAMS

The **ACE-IT PROGRAM** allows high school students to take first level (classroom) technical training in a trade that gives them credit for both high school and apprenticeship or industry training programs. Technical training classes are most often taught at post-secondary institutions, but can also be offered at school district facilities.

The **SECONDARY SCHOOL APPRENTICESHIP (SSA)** lets students begin the work-based training component of an apprenticeship program while still in high school. Students “earn while they learn,” getting credits toward both their high school diploma and apprenticeship on-the-job training. SSA students earn 16 graduation credits and complete up to 480 hours of work experience that counts toward their apprenticeship.

Apprenticeship Route

This route prepares students to apprentice in a trade as soon as they graduate.

An apprenticeship is a combination of:

- Work-based training:
 - 20 percent in school
 - 80 percent on a work site, with an employer sponsor
- Classroom learning at a college, institute, university or private trades training institution.

All apprenticeship training is delivered by skilled, certified trades people with experience in the field.

In BC, successful apprenticeship training leads to a Certificate of Qualification (CoQ) awarded by the **INDUSTRY TRAINING AUTHORITY**, which is recognized across the province. About 50 trades also offer the Interprovincial (IP) Red Seal certificate, which is recognized across Canada.

Certificate or Diploma Route

The certificate or diploma route helps prepare students who have decided to pursue a career that requires fairly extensive additional training after high school graduation. This training requires a minimum of 13 weeks or may take one to two years, depending on the structure of the program and the institution offering the instruction.

Many certificate or diploma programs in BC may lead to advanced entry into a degree program in the same subject area at a later date.





Degree Route

The degree route helps prepare students for a career that requires a four or five year degree from a post-secondary institution.

Some degree programs begin in one institution and are completed at another.

Direct-to-Work Route

Graduates who have the right preparation in high school have many direct-to-work job opportunities in health care. These jobs require only on-the-job training and the appropriate career preparation certifications such as CPR and FOODSAFE. These can be acquired while still in school or within a short time after graduation.

For some jobs, students might require an additional certificate that takes longer to complete. This type of certificate increases their chance of getting a better job.

This direct-to-work route eases the transition from high school to work.

NOT ALL HEALTH CARE JOBS ARE IN THE FIELD

In addition to skilled and experienced people who work in the field, every industry needs people who work in the office, in such areas as IT, accounting, health and safety, human resources, communications, investor relations and customer relations. General certificates and degrees are available in these fields, but it helps if students have courses, certifications and work experience relevant to the industry sector.

Every industry also needs leaders as business managers, supervisors, and executives. Many people occupying these leadership roles start by gaining relevant work experience then adding further on-the-job training, additional certifications or advanced degrees.



IS IT POSSIBLE TO CHANGE A ROUTE?

It is always possible to change a route.

A Career Zone provides students with a solid foundation of core courses, electives, career-preparation certificates and work experience relevant to a particular industry that can be adapted to different routes as required.

For example, a student may start on the apprenticeship route, then realize that the post-secondary certificate or degree route would be better. The student can then add the additional courses, career-preparation certificates or work experience needed for that route.

A Career Zone enables students to make changes later when they are in a training program or the workforce. With the broad-based, career focused foundation they received in high school, students will find it easier to upgrade their qualifications.

For example, someone who decided to go direct-to-work may later choose to train as an apprentice, or take a diploma or degree program, without having to make up missing courses or credits.

Students and their parents should be open to the possibility that an inspiring course or stimulating work experience may lead them to change the focus of their career path.

USEFUL CAREER PLANNING RESOURCES

WORKBC provides profiles of more than 500 different occupations, with details on job duties, required education and training, employment outlook and average salaries or wages. The site offers a comprehensive database of BC job postings, and a blog featuring trends, job-search tips and employment programs.

EDUCATION PLANNER allows users to compare BC post-secondary programs.

TRADES TRAINING BC helps both students and employers find trades programs offered at 14 post-secondary institutions throughout BC.

ITABC works with employers, employees, industry, labour, training providers and government to issue credentials, manage apprenticeships, set program standards and increase employment opportunities in the trades.

Like a transit map, the chart on the next page shows four possible routes from high school to a range of careers in the health care industry.



Career Zone Map: Community Health Care

This map shows the various routes high school students can take to achieve high-demand jobs in the community health care sector.

Routes start from the centre, with core high school courses, followed by options that help prepare students for the next steps along the route of their choice.

At any point, students may decide to switch their direction of travel and try a different route.

Bold indicates a high-demand job (*BC 2024 Labour Market Outlook*)



Career Zone Map: Hospital Health Care

This map shows the various routes high school students can take to achieve high-demand jobs in the hospital health care sector.

Routes start from the centre, with core high school courses, followed by options that help prepare students for the next steps along the route of their choice.

At any point, students may decide to switch their direction of travel and try a different route.

Bold indicates a high-demand job (*BC 2024 Labour Market Outlook*)



Career Zone Map: Health Care Technology

This map shows the various routes high school students can take to achieve high-demand jobs in the health care technology sector including:

- Health Information Systems
- Health Diagnostics
- Biotech

Routes start from the centre, with core high school courses, followed by options that help prepare students for the next steps along the route of their choice.

At any point, students may decide to switch their direction of travel and try a different route.

Bold indicates a high-demand job (*BC 2024 Labour Market Outlook*)



HEALTH CARE CAREERS

The health care sector is one of the largest and fastest growing sectors in British Columbia. In 2014, it employed 210,000 people in hundreds of different occupations.

Such as:

- acupuncturist
- care aide for the elderly
- doctor
- lab technician
- nurse
- office administrator.
- paramedic
- physiotherapist

These people work in a number of different settings such as:

- biotechnology laboratories
- community clinics
- hospitals
- government offices
- health technology laboratories
- palliative care facilities
- private health care services
- public health facilities
- residential care facilities

Between 2000 and 2014, employment in the BC health care sector increased an average of 2.5% per year, This increase was more than twice as fast as the increase in population. It was due, in large part, to an aging demographic.

The health care sector currently has a low unemployment rate and is generally not affected by changes in the economy. However, work in the health care sector often involves shift work, part-time work, or casual work. This may not suit everyone.





RECOMMENDED CORE COURSES AND ELECTIVES FOR CAREERS IN THE HEALTH CARE SECTOR

It is vital that students investigate the core courses and electives that will help them take the most direct route to their chosen career in the health care sector.

Core Courses

All BC high school students take core courses in English, Mathematics and Science for graduation. But in each core subject area there are options that make it easier to go directly to work or get into the post-secondary training program of their choice.

For example, students are required to take English 12, English First Peoples 12 or Communications 12. A number of apprenticeship and post-secondary programs require either English 12 or English First Peoples 12. Communications 12 would not be a good choice for a student wanting to become an apprentice. Communications 12 would not be a good choice for a student wanting a certificate, diploma or degree program.

Although students are not required to take a Mathematics 12 course for graduation, they should choose their Mathematics 11 course carefully. Pre-Calculus 11 and 12 is required for some apprenticeship and post-secondary programs.

Electives

Choosing the right electives is just as important as choosing the right core courses.

MORE INFORMATION ON :

[WorkBC](#)

[Health Care Jobs in Canada](#)

[Exploring Healthcare Careers](#)

[Health Match BC](#)

[First Nations Health Authority's Health Careers Guidebook](#)

DUAL CREDIT OPTIONS

Dual credit courses (counted as elective credits) give BC high school students the opportunity to earn both high school and post-secondary credits at the same time.

Several BC school districts currently offer dual credit options in collaboration with local post-secondary institutions that would be beneficial for students interested in health care careers.

For example, Camosun College works with south Vancouver Island school districts to offer dual credit courses in biology, chemistry, psychology, practical nursing and other health care related topics.

In fact, Camosun's entire Health Care Assistant (HCA) Certificate program can be completed while still in high school.



For example, an apprentice electrician needs Physics 11, while all students—including those who intend to go direct-to-work, without any additional training—will benefit significantly from gaining skills and work experience that are directly applicable to jobs in the health care sector.

The health care sector recommends that students look at the job descriptions and pre-requisites for their preferred career options, then look at the electives offered in their schools. The following is a list of electives they may want to consider:

- *For all students:*
 - « Biology 12
 - « Chemistry 11 and 12
 - « Family Studies 11 and 12
 - « Human Services 11 and 12
 - « relevant dual credit courses
 - « relevant locally developed Board/ Authority Authorized (BAA) courses, such as Health Science 12 or Psychology 11 and 12,
 - « Work Experience 12A and 12B
- For students interested specifically in healthcare technology or biotechnology:
 - « Information and Communication Technology 11 and 12
 - « Physics 11 and 12
 - « Science and Technology 11
 - « Technology Education 11 and 12:
 - Drafting and Design
 - Industrial Design
- For students considering an apprenticeship, both:
 - « [ACE-IT](#), and
 - « [Secondary School Apprenticeship \(SSA\)](#) .

**WORK EXPERIENCE
12A AND 12B**

With Work Experience 12A and 12B – each 100 to 120 hours long – the community is the classroom. Work site placements help prepare students for the transition from high school to the world of work by providing opportunities to gain valuable workplace knowledge, determine (or change) career goals, and develop job skills.

To find out more, see the [PROGRAM GUIDE FOR MINISTRY AUTHORIZED WORK EXPERIENCE COURSES](#).

**GRADUATION
PLANNING
RESOURCES:**

[Graduation Planner](#)
[Graduation Requirements](#)



RECOMMENDED CAREER-PREPARATION CERTIFICATES FOR CAREERS IN THE HEALTH CARE SECTOR

Most health care jobs require applicants to have at least a high school diploma, and some may require a driver's licence.

Acquiring relevant career-specific certifications can also ensure that students have a better chance of employment or a higher level of employment directly out of high school, college or university. Certifications can take anywhere from a couple of hours to several weeks to complete. For jobs in the tourism and hospitality sector, recommended certifications include:

- a CPR certificate
 - » CPR
 - » Health Care Provider Level CPR
 - » Standard First Aid Level 1 with CPR
- FOODSAFE Level 1
- Medical Terminology
- Non-Violent Crisis Intervention (NVC) CPI certificate
- Workplace Hazardous Materials Information System (WHMIS)

Please note: Some certifications are time-limited. For example, many health care jobs require workers to renew their CPR certificate every year. It is a good idea for high school students to complete or renew their certifications close to graduation.

Some training institutions and employers may have additional requirements:

- a medical test such as a TB test
- proof of vaccinations such as Hepatitis B
- a criminal record check

FOR MORE INFORMATION:

[WorkBC](#)

[Health Care Jobs in Canada](#)

[Exploring Healthcare Careers](#)

[Health Match BC](#)

[First Nations Health Authority's Health Careers Guidebook](#)

HEALTH CARE SUB-SECTORS

In this guide, the health care sector is divided into three sub-sectors:

- community health care
- hospital health care
- health care technology including biotechnology, health information systems and medical diagnostics

HEALTH CARE SUB-SECTOR 1: COMMUNITY HEALTH CARE

Community health care includes:

- alternative or complementary health care:
 - » acupuncture
 - » herbology
 - » homeopathy
 - » massage therapy
 - » osteopathy
 - » reflexology
- dental care
- paramedic services
- traditional medical care



Community health care is delivered in medical offices, drop-in clinics and other community locations, including client homes, group homes and residential facilities.





Community health also involves:

- the development of policies and programs that encourage healthy living e.g., smoking cessation.
- infectious and chronic disease prevention, e.g., vaccination clinics.
- preventable injury education, e.g., falls.
- public health emergency response, such as unsafe drinking water in a town or city, an outbreak of food poisoning at a restaurant, or an illness like whooping cough or the flu sweeping through a school.

Many of the jobs available in the community health care sub-sector may also be available in a hospital or clinic. This allows the flexibility to choose between working in smaller offices or larger health care settings.


**FOR MORE INFORMATION
ON HEALTH POLICY
RESEARCHERS,
CONSULTANTS AND
PROGRAM OFFICERS:**

Career profile: [WorkBC](#)



COMMUNITY HEALTH CARE POSSIBILITIES

The chart below divides community health care job possibilities into high-demand and lower-demand jobs. The list of high-demand occupations is based on the [British Columbia 2024 Labour Market Outlook](#).

Routes:	Job possibilities:	Possible Credential:
Apprenticeship	<p><i>Lower demand:</i></p> <ul style="list-style-type: none"> embalmer funeral director Professional Cook 1, 2, 3 	<ul style="list-style-type: none"> ITA Certificate of Qualification
Certificate or Diploma	<p><i>High demand:</i></p> <ul style="list-style-type: none"> accounting technician and bookkeeper health care assistant or care aide (see <i>Sample Bundle 2</i>) <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> certified dental assistant community health worker dental hygienist dietary aide junior health administrator or researcher (see <i>Sample Bundle 3</i>) medical laboratory assistant mental health and addictions worker optician paramedic (emergency medical responder) public health communications officer pharmacy technician rehabilitation assistant reflexologist therapist assistant 	<p><i>Certificate and diploma programs:</i></p> <ul style="list-style-type: none"> Aboriginal Community and Health Development Certificate or Diploma (see <i>Sample Bundle 3</i>) Aboriginal/Indigenous Health and Healing Certificate Certified Dental Assistant Certificate Dental Office Receptionist Certificate Dispensing Optician Diploma First Nations Public Administration Certificate or Diploma Health Development Certificate Health Care Assistant Certificate (see <i>Sample Bundle 3</i>) Mental Health and Addictions Certificate Pharmacy Technician Certificate Practical Nursing Diploma Primary Care and Advanced Care Paramedic Diploma Public Safety Communications Certificate Rehabilitation Assistant Diploma Resident Care Aide Certificate Therapist Assistant Diploma
Degree	<p><i>High demand:</i></p> <ul style="list-style-type: none"> accountant family doctor doctor: generalist doctor: specialist <ul style="list-style-type: none"> dermatologist cardiologist gerontologist medical health officer ophthalmologist psychiatrist financial auditor health policy researcher, consultant or program officer nurse practitioner registered nurse registered nurse – specialty nursing (e.g., community health)(see <i>Sample Bundle 4</i>) physiotherapist occupational therapist respiratory therapist social worker 	<p><i>All of these occupations require a bachelor's degree.</i></p> <p><i>Some also require:</i></p> <ul style="list-style-type: none"> additional certifications a master's degree a doctoral degree, plus post-doctoral training <p>Training in alternative and complementary health care is offered through a combination of public and private training programs.</p> 





Routes:	Job possibilities:	Possible Credential:
Degree	<p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • acupuncturist • audiologist • chiropractor • dentist • doctor of traditional Chinese medicine • environmental health inspector • environmental health officer • epidemiologist • health administrator • kinesiologist • mental health counsellor • midwife • naturopath • optometrist • osteopath • pharmacist • physician assistant • population health director • public health dietician • public health inspector • registered dietician • registered massage therapist • speech-language pathologist 	<p><i>All of these occupations require a bachelor's degree.</i></p> <p><i>Some also require:</i></p> <ul style="list-style-type: none"> • additional certifications • a master's degree • a doctoral degree, plus post-doctoral training <p>Training in alternative and complementary health care is offered through a combination of public and private training programs.</p>
Direct-to-Work	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • health care assistant or care aide • medical office support worker (see <i>Sample Bundle 6</i>) • receptionist <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • activity assistant • cleaner • clerk • dietary aide • pharmacy assistant • social media liaison for public health initiatives 	<p><i>On-the-job training is available for many community health care jobs. Some short training and certificate programs include:</i></p> <ul style="list-style-type: none"> • Activity Assistant Certificate • Medical Office Assistant Certificate (see <i>Sample Bundle 6</i>)

HEALTH CARE SUB-SECTOR 2: HOSPITAL HEALTH CARE

Much of health care is delivered in hospitals and other associated health care facilities, such as outpatient or mental health clinics.

Jobs within a hospital include patient care, of course, but also many that are not directly related to patient care, including cooks and cleaners, medical gas fitters and administrators.



Many of the jobs available within a hospital or clinic may also be available in the community (see previous sub-sector), allowing the flexibility to choose between working in smaller offices or larger health care settings.



HOSPITAL HEALTH CARE POSSIBILITIES

The chart below divides hospital health care job possibilities into high-demand and lower-demand jobs. The list of high-demand occupations is based on the [British Columbia 2024 Labour Market Outlook](#).

Routes:	Job possibilities:	Possible Credentials:
Apprenticeship	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • carpenter • electrician • plumber (with medical gas designation) • Professional Cook 1, 2 and 3 <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • Instrumentation and Control Technician (see <i>Sample Bundle 1</i>) • Refrigeration and Air Conditioning Mechanic 	<ul style="list-style-type: none"> • ITA Certificate of Qualification • Interprovincial Red Seal Endorsement
Certificate or Diploma	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • accounting technicians and bookkeepers • licensed practical nurse • medical laboratory technologist • diagnostic medical sonographer/ultrasound technician • junior supervisor or manager: <ul style="list-style-type: none"> – financial services – food services <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • biomedical engineering technologist • cardiology technologist • electroneurophysiology technologist • health information manager • health information technician • medical radiation technologist • medical transcriptionist • mental health and addictions worker • nuclear medicine technologist • orthopedic technologist • paramedic (Emergency Medical Responder) • pharmacy technician • pharmacist assistant • rehabilitation assistant • therapist assistant • unit clerk or coordinator 	<p><i>Certificate and diploma programs (13 weeks and up) available at BC post-secondary institutions:</i></p> <ul style="list-style-type: none"> • Biomedical Engineering Diploma: Technology • Culinary Management Diploma • Electroneurophysiology Technologist Diploma • Health Information Management Diploma • Health Unit Coordinator Certificate • Health Care Assistant • Medical Laboratory Assistant Certificate • Nutrition and Food Service Management Diploma • Mental Health and Addictions Certificate • Pharmacy Technician Certificate • Practical Nursing Diploma • Rehabilitation Assistant Diploma • Therapist Assistant Diploma



Routes:	Job possibilities:	Possible Credentials:
Degree	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • accountant • cardiac perfusionist • doctor: general • doctor: specialist: <ul style="list-style-type: none"> – dermatologist – cardiologist – gerontologist – ophthalmologist – psychiatrist – surgeon • financial auditor • nurse practitioner • registered nurse • registered nurse: speciality nursing (e.g., ICU) • physiotherapist • occupational therapist • respiratory therapist • social worker • senior supervisor or manager: <ul style="list-style-type: none"> – computer and information systems – financial services – food services <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • audiologist • First Nations community health director • health administrator • health educator • kinesiologist • mental health counsellor • pharmacist • registered dietician • speech-language pathologist 	<p><i>All of these occupations require a bachelor's degree.</i></p> <p><i>Some also require:</i></p> <ul style="list-style-type: none"> • additional certifications such as an Advanced Certificate in Cardiovascular Perfusion, for a nurse or respiratory therapist • a master's degree • a doctoral degree, plus post-doctoral training
Direct-to-Work	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • cook (non-certified) • food and beverage server • medical office support worker (see <i>Sample Bundle 6</i>) • receptionist • security guard <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • cleaner • clerk • courier or stores worker • dietary aide • laboratory assistant • medical device reprocessing technician • porter 	<p><i>On-the-job training is available for many accommodation jobs. Additional certificate programs include:</i></p> <ul style="list-style-type: none"> • Basic Security Training • Medical Device Reprocessing Technician Certificate • Medical Office Assistant Certificate (see <i>Sample Bundle 6</i>)



APPRENTICESHIP TRADES AND HOSPITAL MAINTENANCE

Although the apprenticeship trades such as plumber, carpenter or electrician mentioned here as health care job possibilities are common across all industries. Apprentices and trades people can choose to take additional specific training that applies to health care settings.

For example, hospitals need plumbers with additional medical gas training to maintain the hospital medical gas systems. They need electricians with training and experience in maintaining electrical systems without powering them off. A medical Instrumentation and Control Technician (ICT) performs the same tasks as he or she would in any other industry. However, an ICT in a hospital must know how to work in sterile rooms where contaminated instruments and control systems could directly affect patient health.

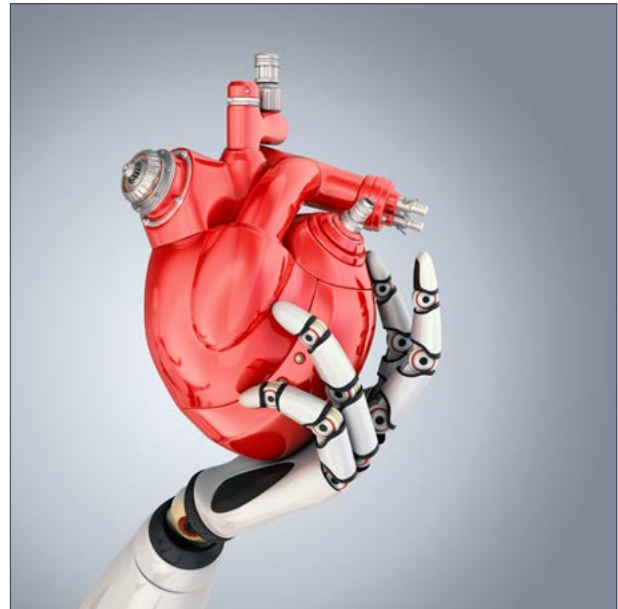




HEALTH CARE SUB-SECTOR 3: HEALTH CARE TECHNOLOGY

Health care technology involves the research and development of medical devices, pharmaceuticals, vaccines and procedures. It includes the systems used to diagnose, monitor or treat diseases and medical conditions.

Health care is becoming more patient-centric. Patients can easily access their own health files, choose their health providers and choose their health solutions. To a large extent this requires technology. At the same time, the general public is expecting even more timely and accurate diagnoses. The development of robotic prosthetics, nanotechnology and other emerging technologies will increase their ability to live a longer, more active life.



Health care technology includes:

- **biotechnology:** technology based on biology that harnesses cellular and bio-molecular processes to combat disease.
- **health information systems:** systems that capture, store, manage or transmit information related to the health of individuals or the activities of organizations that work within the health sector. These enable researchers to analyze and predict patient outcomes and analyse the effectiveness of procedures.
- **medical diagnostics:** devices and systems used to help identify a disease or illness.

Health care technology innovations range from the development of simple adhesive bandages and ankle braces, to larger, more complex technologies like MRI machines and artificial organs.

Health Technology

Bio Technology

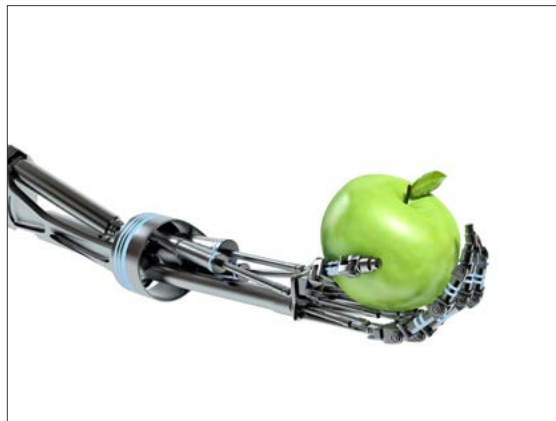
Health Information Systems

Medical Diagnostics



Both public- and private-sector agencies are involved in health care technology.

Please note:
There are very few “Direct-to-Work” job possibilities in this sector because of the specialized nature of the work.



FOR MORE INFORMATION:

Biotalent Canada
Lifesciences BC

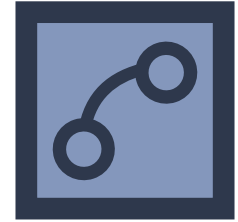


HEALTH CARE TECHNOLOGY POSSIBILITIES

The chart below divides health care technology job possibilities into high-demand and lower-demand jobs. The list of high-demand occupations is based on the [British Columbia 2024 Labour Market Outlook](#).

Routes:	Job possibilities:	Possible Credentials:
Apprenticeship	<ul style="list-style-type: none"> • Electrician • Instrumentation and Control Technician 	<ul style="list-style-type: none"> • ITA Certificate of Qualification • Interprovincial Red Seal Endorsement
Certificate or Diploma	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • accounting technicians and bookkeepers • administrative assistant • medical laboratory technologist <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • biological technologist or technician • chemical technologist or technician • chemist • junior supervisor or manager: <ul style="list-style-type: none"> – human resources – laboratory operations – product development – project development – quality control • technical writer 	<p><i>Certificate and diploma programs (13 weeks and up) available at BC post-secondary institutions:</i></p> <ul style="list-style-type: none"> • Applied Chemistry and Biotechnology Diploma • Associate Certificate in Technical Writing • Medical Laboratory Assistant Certificate • Medical Laboratory Science Diploma
Degree	<p><i>High demand:</i></p> <ul style="list-style-type: none"> • doctor • financial auditor • senior supervisor or manager: <ul style="list-style-type: none"> – computer and information systems <p><i>Lower demand:</i></p> <ul style="list-style-type: none"> • biostatistician • biologist • biotechnologist – (see <i>Sample Bundle 5</i>) • chemist • data analyst • health information manager • patent agent • pharmacist • senior supervisor or manager: <ul style="list-style-type: none"> – human resources – laboratory operations – product development – project development – quality control • researcher • scientist • technical (scientific) writer 	<p><i>All of these occupations require a bachelor's degree.</i></p> <p><i>Some also require:</i></p> <ul style="list-style-type: none"> • additional certifications • a master's degree • a doctoral degree, plus post-doctoral training

Routes:	Job possibilities:	Possible Credentials:
Direct-to-Work	<i>High demand:</i> <ul style="list-style-type: none"> • office or laboratory support worker • receptionist • data entry clerk 	On-the-job training is available for some health care research and development jobs. There are also some short training and certificate programs (from a few days up to 12 weeks) available at select BC post-secondary institutions.



HEALTH CARE SECTOR CAREER PATHS – SAMPLE BUNDLES

These six sample bundles show how high schools, post-secondary institutions and industry partners can work together to develop career paths for students.

SAMPLE BUNDLE 1: INSTRUMENTATION AND CONTROL TECHNICIAN (INDUSTRIAL INSTRUMENT MECHANIC)

Instrumentation and control technicians install, repair, maintain, and replace monitoring and control instruments. These include sensors, recording devices, control loops and computers. These digital devices require accurate signal transmission and telemetering in industrial, commercial and public health care facilities.

The [BC Institute of Technology](#) is one of several BC post-secondary schools to offer the **Instrumentation And Control Technician Apprenticeship** program. The program combines in-school and work-based training in four levels. Each level requires ten weeks of full-time study. The entire program usually takes four years to complete.

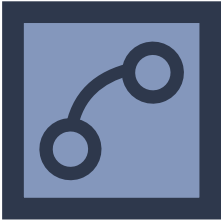
Students may take the two-year in-school training portion only, for an Industrial Instrumentation and Control Technician Diploma.

**MORE INFORMATION ON
A CAREER AS AN
INSTRUMENTATION
TECHNICIAN:**

Career profile: [WorkBC](#)

Training providers: [Education Planner](#)

Apprenticeships: [Industry Training Authority](#)



APPRENTICESHIP ROUTE – INSTRUMENTATION AND CONTROL TECHNICIAN

Core High School Courses and Electives:	Career-preparation Certificates:	Instrumentation and Control Technician Apprentice Program:	Credentials:
<p><i>Required:</i></p> <ul style="list-style-type: none"> English 12 or Communications 12 Chemistry 11 Math 11 Physics 11 <p><i>Recommended:</i></p> <ul style="list-style-type: none"> relevant locally developed Board/Authority Authorized (BAA) courses Work Experience 12A and 12B Secondary School Apprenticeship Program 	<p><i>Recommended:</i></p> <ul style="list-style-type: none"> Standard First Aid Level 1 with CPR Workplace Hazardous Materials Information System (WHMIS) 	<p>Students must have an employer and be registered with the Industry Training Authority.</p> <p>Students must complete 6,000 workplace hours and 1,200 in-school hours of training.</p> <p><i>In-school training courses:</i></p> <ul style="list-style-type: none"> Instrumentation Fundamentals Pressure And Flow Instruments And Measurements Control Valves And Positioners Analytical Instruments And Control Programmable Logic Controllers Analog And Microprocessor-Based Controllers 	<ul style="list-style-type: none"> ITA Certificate of Qualification Interprovincial Red Seal Endorsement

SAMPLE BUNDLE 2: CERTIFICATE – HEALTH CARE ASSISTANT

Health Care Assistants (HCAs) work under the supervision of nurses to maintain the physical, emotional, cognitive, social and spiritual well being of their clients. The clients may be located in a variety of settings such as continuing care clinics, assisted living facilities and private homes. HCAs may also be employed at acute care hospitals.

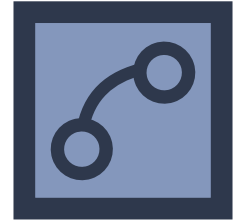
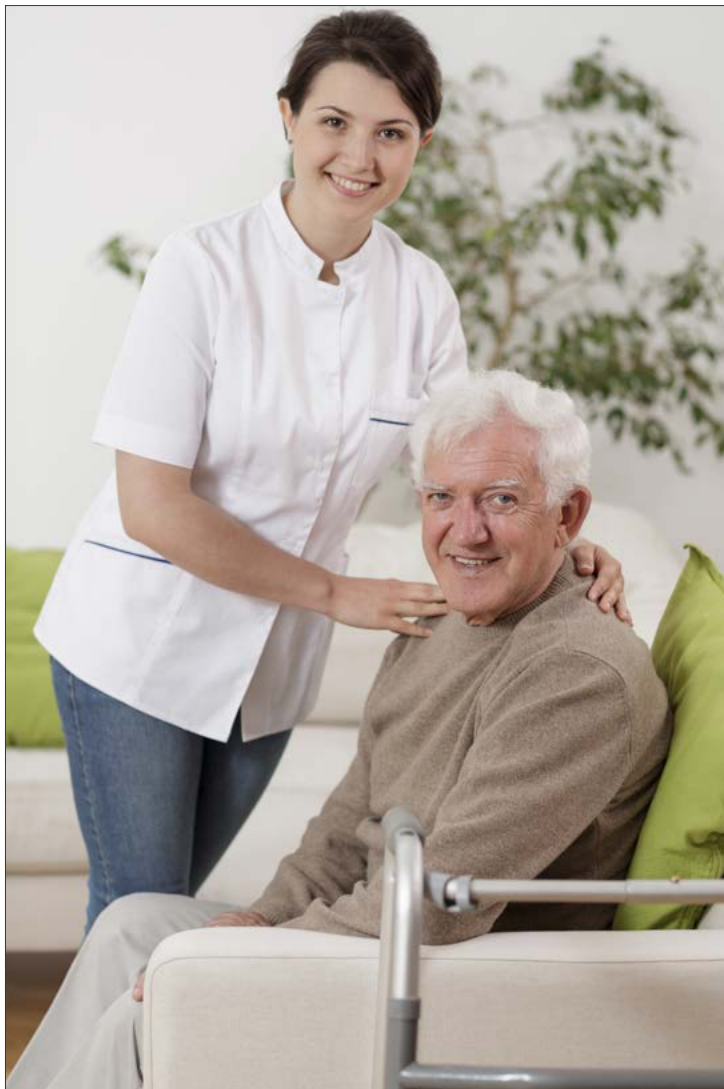
MORE INFORMATION ON A CAREER AS AN HCA:

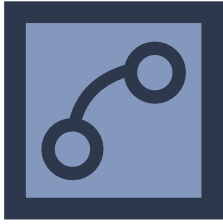
Training providers: [Education Planner](#)

A number of BC post-secondary schools offer a full-time **Health Care Assistant Certificate** program. These programs take six months to one year to complete and some have a part-time option. The programs include lab experience and classroom courses taught by experienced health care professionals. HCA students must also complete practicums in a number of different health care settings.

[Capilano University](#) offers a full-time, 23-week HCA program. Many other post-secondary institutions across the province offer a similar program but some of the details may be different. For example, high school students may take Camosun College's [Health Care Assistant Certificate](#) program as dual credit while still in high school.

Many HCA graduates go on to take a Diploma in Licensed Practical Nursing or enter a Bachelor of Nursing degree program.





CERTIFICATE ROUTE – HEALTH CARE ASSISTANT

Core High School Courses and Electives:	Career-preparation Certificates:	Capilano University's HCA Certificate Program:	Credential:
<p><i>Required:</i></p> <ul style="list-style-type: none"> English 12 Math 11 <p><i>Recommended:</i></p> <ul style="list-style-type: none"> Biology 11 Chemistry 11 and 12 Family Studies 11 and 12 Human Services 11 and 12 relevant locally developed Board/Authority Authorized (BAA) courses relevant dual credit courses Work Experience 12A and 12B 	<p><i>Required:</i></p> <ul style="list-style-type: none"> Standard First Aid Level 1 CPR (Level C) with Automated External Defibrillator (AED) FOODSAFE Level 1 TB test Up-to-date immunizations Criminal record clearance <p><i>Recommended:</i></p> <ul style="list-style-type: none"> Workplace Hazardous Materials Information System (WHMIS) 40 hours of volunteer work at a Complex Care Unit 	<p><i>Courses include:</i></p> <ul style="list-style-type: none"> Lifestyle and Choices Health and Healing: Concepts for Practice Interpersonal Communications Caring for Individuals: Cognitive or Mental Health Challenges Health Care Assistant: Introduction to Practice Personal Care Nursing Skills <p><i>Plus:</i></p> <ul style="list-style-type: none"> Practice Experience in Multi-level and/or Complex Care Practice Experience in Home Support and/or Assisted Living 	<ul style="list-style-type: none"> Health Care Assistant Certificate

SAMPLE BUNDLE 3: CERTIFICATE OR DIPLOMA – ABORIGINAL PUBLIC HEALTH ADMINISTRATOR/RESEARCHER

A number of BC post-secondary institutions offer certificates or diplomas in public health administration and research.

For example, the [Nicola Valley Institute of Technology \(NVIT\)](#) offers a one-year, 30-credit certificate program in **Aboriginal Community And Health Development (ACHD)**. Students who successfully complete the certificate may go on to a second year of training for an [ACHD diploma](#).

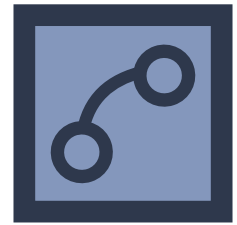
The two ACHD programs help students prepare both for careers in public health administration, policy and research within Aboriginal communities. Graduates work directly with individuals and families. Students learn skills such as how to:

MORE INFORMATION ON A CAREER AS AN HCA:

Training providers: [Education Planner](#)

- plan, develop and evaluate prevention and treatment programs.
- administer Aboriginal community health programs and projects.
- conduct research and assist Aboriginal communities in developing community health care systems.
- develop and coordinate public health education programs to prevent disease, promote health and prolong life.
- liaise between Aboriginal and non-Aboriginal service providers.
- carry out case management activities with individuals and families.
- evaluate clients for necessary services and refer them to appropriate community resources.

Vancouver Island University also offers a shorter, part-time, 21-credit [Community Health Promotion in Aboriginal Communities Certificate](#).





CERTIFICATE OR DIPLOMA ROUTE – ABORIGINAL PUBLIC HEALTH ADMINISTRATOR/ RESEARCHER

Core and Elective High School Courses:	Career-preparation Certificates and other prerequisites:	Nicola Valley Institute of Technology's ACHD Certificate/ Diploma Programs:	Credential:
<p><i>Recommended:</i></p> <ul style="list-style-type: none"> • English 12 • Math 11 or 12 • Biology 11 • Chemistry 11 and 12 • Family Studies 11 and 12 • Human Services 11 and 12 • relevant locally developed Board/Authority Authorized (BAA) course • relevant dual credit courses • Work Experience 12A and 12B 	<p><i>Recommended:</i></p> <ul style="list-style-type: none"> • Standard First Aid Level 1 with CPR • FOODSAFE Level 1 • Non-Violent Crisis Intervention (NVC) CPI certificate • Workplace Hazardous Materials Information System (WHMIS) • TB test • up-to-date immunizations • criminal record clearance 	<p><i>Certificate courses:</i></p> <ul style="list-style-type: none"> • Developing Community Health Leadership • Basic Counselling in the Health Field • Traditional Health and Wellness Practices • Community Health and Development • Self, Health and Wellness • Health Care Policies • Introduction to Aboriginal Family and Counseling Systems • Introduction to Psychology I <p><i>Diploma courses:</i></p> <ul style="list-style-type: none"> • Current Issues in Health • Addictions and Recovery • Health Promotion: Gerontology • Aboriginal Research • Contemporary Health and Medical Practices • Case Management: Roles and Responsibilities of Community Health • Advanced Aboriginal Family and Counseling Systems • Mental Health Wellness and Challenges • Health Administration and Program Development • practicum 	<ul style="list-style-type: none"> • Aboriginal Community and Health Development Certificate or Diploma

SAMPLE BUNDLE 4: DEGREE ROUTE – REGISTERED NURSE

A Registered Nurse in BC must complete a bachelor's degree in nursing and pass the National Council Licensure Examination for RNs. To practise nursing in BC, an RN must register with the College of Registered Nurses of BC.

Many RNs work in hospitals, health units, clinics, residential facilities and medical offices. They may travel to schools, businesses, community centres or patients' homes.

Daily duties may include:

- administering medications, vaccinations and other treatments.
- assessing and recording patients' conditions.
- collaborating with all members of a health care team.
- providing emotional support to patients and their families.
- educating patients and the community about disease management, nutritional planning and medical conditions.

MORE INFORMATION ON TRAINING FOR A CAREER IN TOURISM/HOSPITALITY:

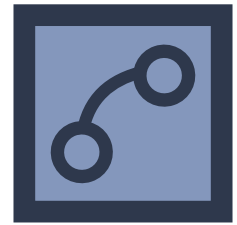
[Canadian Nurses Association](#)

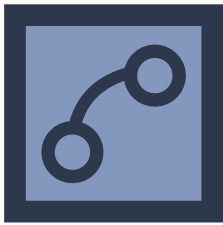
[Canadian Federation of Nurses Unions](#)

[College of Registered Nurses of British Columbia](#)

Career profile: [WorkBC](#)

Training providers: [Education Planner](#)





RNs may choose to take additional certification or graduate degrees to specialize in areas such as emergency care, oncology, psychiatric care, critical care, nursing research, clinical support, teaching or administration. They may study to become a Nurse Practitioner.

The University of Northern British Columbia is one of many BC post-secondary institutions that offer a four-year **Bachelor Of Science In Nursing**. The **Northern Collaborative Baccalaureate Nursing Program** (NCBNP) is offered collaboratively between UNBC, the College of New Caledonia (CNC), and Northwest Community College (NWCC), providing entry into the nursing profession. The integrated program of studies leads to a Bachelor of Science in Nursing (BScN), awarded by UNBC. Graduates are eligible to write the National Council Licensure Examination (NCLEX-RN) and to apply for registration with the College of Registered Nurses of British Columbia (CRNBC) after passing the exam.

DEGREE ROUTE – REGISTERED NURSE

Core High School Courses and Electives:	Career-preparation Certificates:	UNBC Nursing Program:	Credential:
<p><i>Required:</i></p> <ul style="list-style-type: none"> • Biology 11 and 12 • English 12 • Math 11 or 12 <p><i>Recommended:</i></p> <ul style="list-style-type: none"> • Biology 11 • Chemistry 11 and 12 • Family Studies 11 and 12 • Human Services 11 and 12 • relevant locally developed Board/ Authority Authorized (BAA) courses • relevant dual credit courses, • Work Experience 12A and 12B 	<p><i>Required for Year 1 – general program:</i></p> <ul style="list-style-type: none"> • Health Care Provider Level CPR • Standard First Aid Certificate Level 1 • health assessment by a doctor or nurse practitioner • up-to-date immunizations • TB test <p><i>Required for entry into nursing program:</i></p> <ul style="list-style-type: none"> • Non-Violent Crisis Intervention (NVCI) CPI certificate • criminal record check <p><i>Recommended:</i></p> <ul style="list-style-type: none"> • Workplace Hazardous Materials Information System (WHMIS) • FOODSAFE Level 1 	<p><i>First year at UNBC (CNC or NWCC) includes:</i></p> <ul style="list-style-type: none"> • Anatomy & Physiology • Communication Theory & Practice • Microbiology • People & Cultures • Psychology as Science • The Art & Science of Nursing • <p>Years 2-4</p> <ul style="list-style-type: none"> • Ethics & Law • Health Assessment • Nursing Theory and Practice • Nursing Leadership • Nutrition • Pathophysiological Concepts • Pharmacology • Statistics • Specialty areas <p>Every year requires an extended practicum placement.</p>	<ul style="list-style-type: none"> • Bachelor of Science in Nursing (BSN)

SAMPLE BUNDLE 5: DEGREE ROUTE – BIOTECHNOLOGIST

The University of British Columbia describes biotechnology as “the scientific manipulation of living organisms, especially at the molecular genetic level.”

Biotechnology is a growing field. Jobs are available not only in health care services and the development of new medicines. Biotechnologists work in the environmental sector to develop bacteria that consume toxic chemicals and reduce pollution. In the food sector biotechnologists genetically engineer food crops resistant to disease or pests.

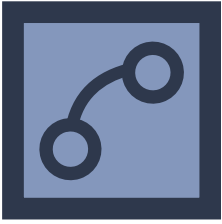
UBC, in cooperation with the [BC Institute of Technology](#), offers a five-year **Bachelor Of Science (Honours In Biotechnology)** program. Students take a general first-year at UBC or another university before transferring to BCIT for two years of class instruction and applied laboratory skills. They then return to UBC for two more years of course work and co-op placements with industry partners and government agencies.

Students completing the two years at BCIT also receive a Diploma in Biotechnology.



DEGREE ROUTE – BIOTECHNOLOGIST

Core and Elective High School Courses:	Career-preparation Certificates:	Degree Program at UBC/BCIT:	Credential from UBC/BCIT:
<p><i>Required:</i></p> <p>Grade 11:</p> <ul style="list-style-type: none"> English 11 Math 11 Physics 11 Chemistry 11 a language 11 an approved social studies course <p>Grade 12:</p> <ul style="list-style-type: none"> English 12 or English 12 First Peoples Pre-calculus 12 two other approved Grade 12 courses, including at least one of: <ul style="list-style-type: none"> Biology 12 Chemistry 12 Geology 12 Physics 12 <p><i>Recommended:</i></p> <ul style="list-style-type: none"> relevant locally developed Board/ Authority Authorized (BAA) courses relevant dual credit courses, Work Experience 12A and 12B 	<p><i>Recommended:</i></p> <ul style="list-style-type: none"> Standard First Aid Level 1 with CPR Workplace Hazardous Materials Information System (WHMIS) 	<p><i>First year at UBC includes:</i></p> <ul style="list-style-type: none"> arts electives biology chemistry communications math physics <p><i>Years 2 and 3 at BCIT:</i></p> <ul style="list-style-type: none"> practical biotechnology training <p><i>Final two years at UBC:</i></p> <ul style="list-style-type: none"> arts elective biochemistry chemical and biological engineering communications microbiology and immunology co-op work terms 	<ul style="list-style-type: none"> Bachelor of Science (Honours in Biotechnology)



SAMPLE BUNDLE 6: DIRECT-TO-WORK ROUTE – MEDICAL OFFICE ASSISTANT

A Medical Office Assistant plays an important role in a health care team. They are in charge of keeping a medical office running smoothly. The MOA's job may include greeting patients, scheduling appointments and assisting with examinations. The MOA also:

- maintains records
- purchases supplies and equipment
- admits patients
- does account and insurance billing

Many Medical Office Assistants receive their training on the job, but they may choose to take a short college program right after high school. [Vancouver Island University](#) (VIU) offers a full-time, 12-week **Medical Office Assistant Certificate** that prepares students to work in a range of different facilities. These include:

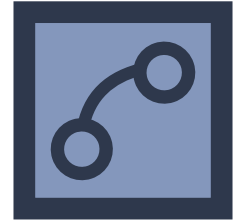
- community medical offices
- government offices with health-related departments
- hospitals and clinics
- long-term care facilities
- medical specialists' offices
- pharmaceutical and insurance companies

MORE INFORMATION ON A CAREER AS A MEDICAL OFFICE ASSISTANT:

Training providers: [Education Planner](#)

DIRECT-TO-WORK ROUTE – MEDICAL OFFICE ASSISTANT

Core High School Courses and Electives:	Career-preparation Certificates:	Advance Study at VIU:	VIU's Medical Office Assistant Courses:	Credential:
<p><i>Required:</i></p> <ul style="list-style-type: none"> English 12 Math 11 <p><i>Recommended:</i></p> <ul style="list-style-type: none"> Biology 11 Chemistry 11 and 12 Family Studies 11 and 12 Human Services 11 and 12 relevant locally developed Board/Authority Authorized (BAA) courses relevant dual credit courses, Work Experience 12A and 12B 	<p><i>Recommended:</i></p> <ul style="list-style-type: none"> Standard First Aid Level 1 with CPR Workplace Hazardous Materials Information System (WHMIS) FOODSAFE Level 1 Non-Violent Crisis Intervention (NVC) CPI certificate 	<p><i>Pre-requisite that could be completed while still in high school:</i></p> <ul style="list-style-type: none"> Medical Terminology Anatomy and Physiology (available online) 	<ul style="list-style-type: none"> Pharmacology For The Medical Office Interpersonal Skills In The Medical Environment Medical Office Procedures Computerized Medical Billing Keyboarding And Computers In The Medical Environment Medical Transcription Observational Practicum for MOAs practicum 	<ul style="list-style-type: none"> Medical Office Assistant Certificate





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