



Summary of Highlighted Occupations (Condensed version)

Air Pilots, Flight Engineers and Flying Instructors

Overview: Air pilots, flight engineers and flight instructors are employed by airline and air freight companies, flying schools and by other public and private sector aircraft operators.

Air pilots:

- Fly fixed wing aircraft and helicopters to provide air transportation and other services such as crop spraying and aerial surveying.

Flight engineers:

- Assist air pilots with monitoring, troubleshooting and maintenance of aircraft systems and with pre- and post-flight inspections.

Flying instructors:

- Teach flying techniques and procedures to student and licensed pilots.

Duties:

Air Pilots:

- Conduct pre-flight inspection of aircraft and check passenger and cargo distribution to ensure that weight and balance specifications are met.
- Co-ordinate flight activities with ground crews and air-traffic control, inform crew members of flight and test procedures and direct activities of aircraft crew during flights.
- Contact control towers for takeoff clearances, arrival instructions and other information.
- Conduct in-flight tests and monitor functioning of aircraft equipment and systems during flights, maintain communications with flight dispatchers and weather forecasters and respond to and report in-flight emergencies and malfunctions.
- Prepare flight evaluation reports.
- Train pilots to use new equipment, or prepare them for examinations to re-validate or upgrade existing licences.
- May fly new or experimental planes to examine their flight performance and safety.
- May participate in search and rescue operations, forest firefighting, aerial surveying, crop dusting and other services.



Flight engineers:

- Inspect aircraft prior to takeoff according to pre-flight checklist and verify passenger and cargo distribution to ensure that weight and balance specifications are met.
- Assist air pilots in monitoring aircraft systems, equipment and functions during flight.
- Make in-flight repairs, such as replacing fuses and adjusting instruments, and follow emergency procedures to compensate for equipment malfunction or failure.
- Perform post-flight inspections, record equipment malfunctions and corrective actions taken during flight and report required repairs to ground maintenance personnel.

Flying instructors:

- Instruct student pilots in procedures and techniques of flying aircraft and in ground-school subjects such as navigation, radio procedures and flying regulations.
- Train licensed pilots for additional certification.

Key Skills: Directive, Manual Dexterity, General Learning Ability, Motor Coordination, Detail-Oriented, Finger Dexterity

Salary Range: The average salary for this occupation in BC is \$47,844 - \$125,345.

Job Requirements:

Pilots and flight engineers:

- Completion of secondary school and graduation from a certified flying or aviation school are required.
- A university degree or college diploma may be required.
- A commercial pilot's licence or an air transport pilot's licence is required.
- Additional licences or endorsements to fly different types of aircraft are required.
- Flight engineers require a flight engineer license issued by Transport Canada.
- Structured training is provided by employers.

Flight instructors:

- Completion of secondary school and graduation from a certified flying or aviation school are required.
- A university degree or college diploma may be required.
- A commercial pilot's or an air transport pilot's licence is required.
- Transport Canada ratings and endorsements to provide instructions on different types of aircraft are required.

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Automotive Service Technicians

Overview: Automotive service technicians, truck and bus mechanics and mechanical repairers inspect, diagnose, repair and service mechanical, electrical and electronic systems and components of cars, buses and light and commercial transport trucks. This occupational group also includes mechanical repairers, who do major repairs and replacements of mechanical units on newly assembled motor vehicles

Duties:

- Adjust, repair or replace parts or components of automotive systems (i.e., fuel systems, brakes, steering and suspension, engines and drive trains, emission control and exhaust, cooling and climate control, and electrical and electronic systems), using hand tools and other specialized automotive repair equipment.
- Inspect motor operation, road test motor vehicles, and test systems using computerized and other testing devices to diagnose faults.
- Test and adjust repaired systems to the manufacturer's performance specifications.
- Perform scheduled maintenance services, such as oil changes, lubrications and tune ups.
- Advise customers on the work they performed, general vehicle conditions and future repair requirements.
- Review work orders and discuss work with supervisor

Key Skills: Motor Coordination, Numerical Ability, Manual Dexterity, Finger Dexterity, Clerical Ability, Object-Oriented

Salary Range: The average salary for this occupation in BC is \$35,080 - \$79,253.

Job Requirements:

Completion of secondary school is generally required to work as an automotive service technician or truck and transport mechanic. While certification is not mandatory in British Columbia, it will likely increase employment opportunities. To be eligible for certification by the Industry Training Authority:

- Workers must complete a three to four-year apprenticeship program (or a combination of several years of work experience in the trade and some high school, college or industry courses).
- Workers must find a sponsor employer who is willing to participate in the program.

These workers typically receive two to three years of on-the-job training from employers. Apprenticeships for automotive service technicians and truck and transport mechanics may begin in secondary school, through entry-level training (Foundation) programs at colleges and technical institutes, or through direct entry to the workplace.



Most automotive service technicians and truck and transport mechanics are eligible for Interprovincial Standard Endorsement (Red Seal) qualification through the Industry Training Authority, which allows holders to work in any province or territory.

Once workers pass the final examination of their accredited training program, they will achieve certification and will automatically receive Red Seal qualification.

As of July 1, 2017 when the Canadian Free Trade Agreement (CFTA) came into force, you will not need significant additional training, experience, testing or assessment if your qualifications or certificates are recognized by a Canadian regulatory authority. This applies whether you were trained in Canada or internationally. Learn about labour mobility at www.workersmobility.ca. For information about labour mobility and foreign qualifications recognition, contact the B.C. regulator for your occupation.

Workers with several years of documented, directly related work experience can challenge the Interprovincial Red Seal examination. For more information, please see the Industry Training Authority website at www.itabc.ca.

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Carpenters

Overview: Carpenters construct, erect, install, maintain and repair structures and components of structures made of wood, wood substitutes, lightweight steel and other materials.

People in this occupation:

- Are employed by construction companies, carpentry contractors and maintenance departments of factories, plants and other establishments.
- May be self employed.
- Must be able to work precisely and solve mathematical problems accurately and efficiently.
- Must have good observation skills, as well as the ability to handle multiple tasks.
- Should be able to work well within a team.

Duties:

Carpenters perform some or all of the following duties:

- Read and interpret blueprints, drawings and sketches to determine specifications and calculate requirements.
- Prepare layouts conforming to building codes, using measuring tools.
- Measure, cut, shape, assemble and join materials made of wood, wood substitutes, lightweight steel and other materials.
- Build foundations, install floor beams, lay sub-flooring and erect walls and roof systems
- Fit and install trim items, such as doors, stairs, moulding and hardware.
- Maintain, repair and renovate residences and wooden structures in mills, mines, hospitals, industrial plants and other establishments.
- Supervise apprentices and other construction workers.
- May prepare cost estimates for clients.

Key Skills: Spatial Perception, Object-Oriented, Numerical Ability, Motor Coordination and Manual Dexterity

Salary Range: The average salary for this occupation in BC is \$44,000-\$53,000.

Job Requirements:

Completion of secondary school is usually required. Completion of a four-year apprenticeship program (or a combination of more than four years of work experiences in the trade and some high school, college or industry courses) is required to be eligible for trade certification, although it is not



required to work as a carpenter in B.C. For more information, please see the Industry Training Authority website at www.itabc.ca

The carpenter apprenticeship requires a combination of work experience and class time instruction. The classroom educational training typically takes place over four six-week periods, but part-time and distance education may be available. Apprenticeships can be started in secondary school, through entry-level training at colleges and technical institutes, or by direct entry, where workers find a sponsor employer who is willing to participate in the program.

Interprovincial Red Seal certification is available to qualified carpenters through the Industry Training Authority. For more detailed information, contact the provincial regulator. A list of provincial regulators can be found at www.tilma.ca/pdf/BCRegulatoryAuthorities.pdf

Workers with 7,500 hours of documented directly related work experience can challenge the interprovincial Red Seal examination.

Entry-level training programs in carpentry, which generally range from four to 10 months, are also available. These programs are designed to introduce students to the carpentry trade. People completing these programs typically start in entry-level carpentry/construction positions.

For program information on public post-secondary education in B.C., please see the Education Planner website at www.educationplanner.ca.

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Computer and Information Systems Managers

Overview: Computer and Information Systems Managers plan, organize and direct the activities of organizations that design, develop and manage computer and telecommunications software, networks and information systems. They are employed throughout the public and private sectors.

Duties:

Computer and information systems managers perform some or all of the following duties:

- Plan, organize and direct the operations of information systems and electronic data processing (EDP) departments and companies.
- Develop and carry out policies and procedures for electronic data processing and computer systems operations and development.
- Meet with clients to discuss system requirements, specifications, costs and timelines.
- Assemble and manage teams of information systems employees to design, develop and manage computer and telecommunications software, networks and information systems.
- Control the budget of the department, company or project.
- Recruit employees and oversee their professional development and training.

Key Skills: Innovative, Social, Directive, Verbal and Written Comprehension

Salary Range: The average salary for this occupation in BC is \$50,138 - \$146,388.

Job Requirements:

Education, training & qualifications:

- A bachelor's or master's degree in computer science, business administration, commerce or engineering is usually required.
- Several years of experience in systems analysis, data administration, software engineering, network design or computer programming, including supervisory experience, are required.

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Computer Network Technicians

Overview: Computer network technicians establish, operate, maintain and co-ordinate the use of local and wide area networks (LANs and WANs), mainframe networks, hardware, software and related computer equipment; supervisors of computer network technicians are included in this group.

People in this occupation:

- Set up and maintain internet and intranet websites and web server hardware and software, and monitor network connectivity and performance.
- Are employed in information technology (IT) units throughout the private and public sectors.
- Should have a good understanding of computer hardware and software.
- Should be flexible, creative and skilled at problem-solving.
- Should also have good interpersonal skills in order to communicate technical problems and work effectively with both IT personnel, such as programmers and other operators and non-IT personnel.

Duties:

Computer network technicians:

- Maintain, troubleshoot and administer the use of local area networks (LANs), wide area networks (WANs), mainframe networks, computer workstations, connections to the Internet and peripheral equipment.
- Evaluate and install computer hardware, networking software, operating system software and software applications.
- Operate master consoles to monitor the performance of computer systems and networks and to co-ordinate access and use of computer networks.
- Provide problem-solving services to network users.
- Install, maintain, troubleshoot and upgrade Web-server hardware and software.
- Implement network traffic and security monitoring software, and optimize server performance.
- Perform routine network start up and close down and maintain control records.
- Perform data backups and disaster recovery operations.
- Conduct tests and perform security and quality controls.
- Control and monitor e-mail use, Web navigation, and installed software.
- Perform shell scripting or other basic scripting tasks.
- May supervise other workers in this group.

Key Skills: Spatial Perception, Innovative, Numerical Ability and Detail-Oriented



Salary Range: The average salary for this occupation in BC is \$42,108 - \$89,389.

Job Requirements:

Computer Network Technicians generally must complete a diploma or certificate program in computer science, network administration, web technology or a related field. Employers may also require a certificate of training for some types of software or hardware.

Completion of a diploma program and at least two years of industry work experience can lead to certification as a Computer Applications or Data Communications Technologist (AScT) with the Applied Science Technologists and Technicians of British Columbia (ASTTBC).

Completion of a certificate program and at least two years of industry work experience can lead to certification as a Technician (CTech) with ASTTBC.

Certification is not mandatory, but it typically helps to increase employment opportunities.

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Electrical and Electronics Engineering Technologist and Technicians

Overview: Electrical and electronics engineers plan, engineer, design, research, evaluate, test, operate and maintain power systems and complex electronic circuits.

Electrical and electronics engineering technologists and technicians design, develop, test and install electrical and electronic equipment and systems. The field of electrical and electronics is vast, with companies working in many areas supporting mining, marine and forestry resource industries and manufacturing.

People in this occupation:

- May work independently or as part of a team of engineers and scientists.
- Are employed by electrical utilities, communications companies, manufacturers of electrical and electronic equipment, consulting firms, governments and a wide range of manufacturing, processing and transportation industries.
- Should have an aptitude for science, mathematics and programming, as well as a practical, hands-on approach to system design and assembly.
- Should be precise and detailed in their work, skilled at problem-solving and able to communicate technical information clearly.

Duties: Electrical and electronics engineering technologists generally exercise independent judgment to develop and manage technology, while technicians are responsible for carrying out various technical tasks.

Workers may specialize in fields such as electronic communication, electronics manufacturing and computer networking, power systems and industrial process control.

Electrical Engineering Technologists:

- Design, develop and test power equipment and systems, including industrial process control systems.
- Supervise the building and testing of prototypes according to general instructions and established standards.
- Conduct or supervise the installation, commission and operation of electrical equipment (other than aircraft electronics or instruments) and diagnose, test and analyze the performance of electrical assemblies and systems.
- May carry out applied research under the direction of scientists and engineers and may write specifications, schedules, technical reports and budgets.



Electronics Engineering Technologists:

- Design, build and test electronics systems.
- Conduct or supervise the planning, specification, installation, management and maintenance of electronics components and systems, and are also involved in the programming of microelectronic devices.
- Take part in design teams and often work alongside engineers.
- Carry out applied research under the direction of scientists and engineers and may write specifications, schedules, technical reports and budgets.

Electrical and Electronics Engineering Technicians:

- Assist in the design, development and testing of electrical and electronic components, equipment, and systems.
- Aid in inspecting, testing, adjusting and evaluating incoming electrical, electro-mechanical and electronic components and assemblies to ensure conformance with product specifications and tolerances.
- Conduct life tests (burn-ins) on assemblies and record and analyze results, assist in building and testing prototypes to specifications, install, operate and maintain electrical and electronic equipment and systems, and calibrate electrical or electronic equipment and instruments.
- Carry out technical functions in support of research, or collect and compile data and help prepare estimates, schedules, budgets, specifications and reports.

Electronics Communication Technicians:

- Specialize in communication electronics.
- Detect spectrum leaks, set up and adjust microwave and radio transmitters and program and maintain telephone network switching gear.
- Stay current on emerging technologies and communications protocols.

Electronics Manufacturing Technicians:

- Assemble electronic circuitry during production and prototyping, set up and calibrate production machinery, design production techniques and assembly processes and adjust and repair complex robotic machinery.
- Analyze manufacturing costs and aid in making production decisions.



Key Skills: Spatial Perception, Innovation, Numerical Ability and Detail Oriented

Salary Range: The average salary for this occupation in B.C. is \$53,000-\$66,000.

Job Requirements:

Completion of a college diploma is usually required to work as an electrical or electronics engineering technologist or technician. In British Columbia, professional certification is not mandatory for this occupation; however, it greatly increases employment opportunities. Certification is available through the Applied Science Technologists and Technicians of British Columbia (ASTTBC) and is transferable between provinces.

Technologist certification typically requires completion of a diploma program from an accredited institution and two years of industry work experience, while technician certification requires completion of a shorter certificate program and two years of industry work experience. Individuals may also obtain certification by successfully passing a number of challenge exams.

Electronics technicians generally complete a “common core” program to gain basic electronics skills before entering a specialized training program such as automation and robotics, computers, consumer electronics, telecommunications or other specializations.

Continuing technical education throughout an electrical or electronics engineering technologist or technician’s career is also necessary to remain current in the field. Individuals can seek out this additional training or it may be offered by employers or the industry.

For program information on public post-secondary education in B.C., please see the Education Planner website at: www.educationplanner.ca.

- See more at: <http://www.workbc.ca/Job-Seekers/Career-Profiles/2241#sthash.bmioOTDp.dpuf>

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General Practitioner and Family Physician

Overview: General practitioners (GPs) and family physicians diagnose and treat diseases, physiological disorders and injuries. Residents in training to be general practitioners and family physicians are included in this unit group.

People in this occupation:

- Look for health risks, address health prevention (immunizations, treatments, etc.), and manage end-of-life issues.
- Are the primary contact for an individual and provide continuous care toward the management of a patient's health.
- Work in private practices, community health centres, clinics, nursing homes and hospitals.
- Work for government and other types of health organizations.
- Provide care to a specific client base or to the community at large.
- Should have strong communication and interpersonal skills, as doctor-patient relationships are central to their roles.
- Must have strong analytical skills and a background in the sciences.
- Are required to continually update their skills and knowledge to provide patients with optimal care.

Duties:

General practitioners and family physicians:

- Examine patients and take their histories, order laboratory tests, X-rays and other diagnostic procedures and consult with other medical practitioners to evaluate patients' physical and mental health.
- Prescribe medications and administer treatments.
- Perform minor surgery and assist with other surgical procedures.
- Provide emergency care.
- Provide acute care management.
- Inoculate and vaccinate patients.
- Advise patients and their families on health care including health promotion, disease, illness and accident prevention.
- Provide counselling and support to patients and their families on a wide range of health and lifestyle issues.
- Perform patient advocacy role.
- Co-ordinate or manage primary patient care.
- Provide continuous care to patients, including palliative care support.



- Supervise home-care services.
- Report births, deaths, and contagious and other diseases to governmental authorities.
- Deliver babies and provide pre-natal and post-natal care.

GPs and family physicians are increasingly adding a special interest to their practice or developing focused practices, including obstetrics, research, addiction medicine, mental health care, sports medicine, anaesthesia, hospital care (hospitalist), care of the elderly (geriatrics), end-of-life care (palliative care), cosmetic surgery, administration and occupational health.

These special focus areas may arise in response to identified needs and opportunities in the health system.

A GP or family physician may pursue the focus area as a part-time interest or it may lead to full-time involvement.

Many family physicians' practices evolve through their career in response to community needs, family and health issues, opportunities and interests.

Key Skills: Social, Motor Coordination, Directive, General Learning Ability and Manual Dexterity

Salary Range: The average salary for this occupation in BC is \$102,116.

Job Requirements:

A doctor of medicine degree (MD) is required, which takes at least three years of undergraduate studies, as well as four years of medical school. Medical schools have high academic admission requirements. University medical programs conduct interviews to ensure that applicants who have acceptable academic credentials also have the appropriate interpersonal skills and attitudes to work as medical professionals.

Graduates of medical programs undergo two years of accredited residency training. The residency program is competitive and may require graduates to travel to other provinces in order to receive a placement. Residents spend the majority of their time in community practices working with family physicians and clinical teams. Residents also spend four or eight weeks working in specific areas of the medical profession, such as medicine, surgery, paediatrics and psychiatry. They must also spend a minimum of eight weeks in a rural practice.

To become a fully licensed physician in B.C., graduates must pass two licensing exams administered by the Medical Council of Canada and they must also become licensed through the College of Physicians and Surgeons of British Columbia. In addition, family physicians must pass a national exam administered by the College of Family Physicians of Canada. These professionals must also maintain professional insurance through an insurance body.



Continuing medical education and professional development are required throughout their careers to ensure that in a rapidly changing medical and scientific world, physicians are providing patients with modern treatments and proper advice. All family physicians are now required to complete a minimum of 50 hours per year (on average) of documented continuing professional education throughout their career.

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Heavy Duty Mechanic/Millwright

Overview: Heavy-duty equipment mechanics repair, troubleshoot and maintain mobile heavy-duty equipment used in transportation, construction, forestry, manufacturing, farming, mining and similar activities. This includes graders, loaders, shovels, tractors, trucks, forklifts and wheeled and tracked vehicles of all types.

People in this occupation:

- Work for companies that own and operate heavy equipment, and for heavy equipment dealers, rental and service establishments, railway transport companies and urban transit systems.
- Must be comfortable working with delicate electronics as well as heavy, cumbersome mechanical linkages (i.e., bulldozer tracks), since heavy equipment also involves the use of micro-processor controls and high pressure hydraulics.
- Have troubleshooting and problem-solving skills.
- Have mechanical ability and pay close attention to detail.

Duties:

Heavy-duty equipment mechanics perform some or all of the following duties:

- Check bulldozers, cranes, graders and other heavy construction, agricultural, logging and mining equipment for proper performance and inspect equipment for faults and malfunctions.
- Diagnose faults or malfunctions using computerized and other testing equipment.
- Adjust equipment and repair or replace defective parts, components or systems using hand and power tools.
- Test repaired equipment for proper performance and make sure that work meets manufacturer specifications.
- Clean, lubricate and perform other routine maintenance work on equipment.
- Service attachments such as harvesting and tillage equipment, blades, ploughs, winches and side booms.
- May perform repair work on heavy trucks.

Key Skills: Verbal and Written Comprehension, Object-Oriented, Methodical, Manual Dexterity, Detail-Oriented and Clerical Ability

Salary Range: The average salary for this occupation in B.C. is \$66,000-\$95,000.

Job Requirements: Completion of secondary school is generally required to work as a heavy-duty equipment mechanic. While not mandatory in B.C., certification or apprenticeship can offer more well-rounded training and will increase employment opportunities, as few employers will hire a heavy-duty



equipment mechanic without certification. To be eligible for certification by the Industry Training Authority:

- Mechanics must complete a four-year apprenticeship program (or a combination of more than four years work experience in the trade and some college or industry courses).
- Workers must find a sponsor employer who is willing to participate in the program.

Heavy-duty equipment mechanics are eligible for Interprovincial Standard Endorsement (Red Seal) qualification through the Industry Training Authority. This allows holders to work in any province or territory. Once individuals pass the final examination of their accredited training program, they will achieve certification and will automatically receive Red Seal qualification.

Workers with 9,000 hours of documented, directly related work experience can challenge the Interprovincial Red Seal examination. For more information, please see the Industry Training Authority website at www.itabc.ca.

Workers already licensed or certified in another province or territory in a provincially regulated occupation will have their credentials recognized in B.C. For more detailed information, contact the provincial regulator. A list of provincial regulators can be found at www.tilma.ca/pdf/BCRegulatoryAuthorities.pdf

For program information on public post-secondary education in B.C., please see the Education Planner website at www.educationplanner.ca.

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Information Systems Analysts and Consultants

Overview: Information systems analysts and consultants assess an organization's information systems requirements.

People in this occupation:

- Develop and implement information systems development plans, policies and procedures.
- Provide advice on a wide range of information systems issues.
- Work for information technology consulting firms, telecommunications firms, financial institutions, public service organizations and other information technology units throughout the private and public sectors.
- May be self-employed.
- Have an interest in computer hardware and software, networking and business administration.
- Have exceptional communication, research and planning skills.
- Have experience in computer programming, as well as knowledge of internet and web applications, structured analysis, data modeling, information engineering, mathematical model building and sampling.

Duties: There are a wide variety of functions in the field of systems analysis. All information systems analysts and consultants take part in planning, setting up or managing information systems for organizations. The following duties are broken down by special area of focus.

Information systems business analysts and consultants:

- Speak with clients to identify requirements, and conduct business and technical studies.
- Design, develop and set up information systems business solutions.
- Provide advice on information systems strategy, policy, management, security and service delivery.

Systems security analysts:

- Talk with clients to identify requirements.
- Assess physical and technical security risks to data, software and hardware.
- Develop policies, procedures and back up plans to minimize the effects of security breaches.

Information systems quality assurance analysts:

- Develop and put into place policies and procedures throughout the software development life cycle to maximize the efficiency, effectiveness and overall quality of software products and information systems.



Systems auditors:

- Do independent third-party reviews to assess quality assurance practices, software products and information systems.

Key Skills: Manual Dexterity, Numerical Ability, Detail-Oriented, Motor Coordination, Verbal and Written Comprehension and Finger Dexterity

Salary Range: The average salary for this occupation in BC is \$44,757 - \$103,133.

Job Requirements:

A bachelor's degree in computer science, computer systems engineering, software engineering, business administration or a related discipline is usually required. Other training and requirements may include:

- Combining a college program in computer science with sufficient work experience.
- Vendor certification for those performing systems analysis under specific technical platforms.

Experienced systems analysts and consultants can apply for the Information Systems Professional (ISP) designation through the Canadian Information Processing Society.

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Medical Sonographers

Overview: Medical sonographers operate ultrasound equipment to produce and record images of various parts of the body to aid physicians in monitoring pregnancies and in diagnosing cardiac, ophthalmic, vascular and other medical disorders.

Medical sonographers:

- Who are supervisors or instructors are included in this group.
- Work in clinics and hospitals.

Duties: Medical sonographers:

- Run ultrasound imaging equipment that transmits high frequency sound pulses through the body to produce images of those parts of the body needing examination.
- Monitor examination by viewing images on video screen to evaluate quality and consistency of diagnostic images.
- Make adjustments to equipment as needed.
- Record, store and process scanned images by using camera unit connected to ultrasound equipment.
- Make sure patients are safe and comfortable during examinations.
- Prepare examination reports for physicians to help monitor pregnancies and the diagnosis of cardiac, abdominal, ophthalmic, vascular and other disorders.
- Do quality control checks on ultrasound equipment to make sure they operate properly.
- Do minor repairs and adjustments to equipment as needed.
- May supervise and train student and other medical sonographers.

Medical sonographers may specialize in abdominal, cardiac, cerebral, obstetrical and gynaecological, ophthalmic, intraluminal or peripheral vascular sonography. They may also specialize in adult or pediatric echocardiography or neurosonology.

Key Skills: Manual Dexterity, Verbal and Written Comprehension, Social and Clerical Ability

Salary Range: The average salary for this occupation in BC is \$42,150 - \$101,277.



Job Requirements:

Education, training & qualifications:

- Completion of a three- to four-year program in diagnostic medical sonography or ultrasound technology
- or
- Completion of a two- to three-year program in a related allied health field and a one-year post-diploma program in diagnostic medical sonography from an accredited institution are required.
- Registration with the Canadian Association of Registered Diagnostic Medical Ultrasound Professionals and/or the American Registry of Diagnostic Medical Sonographers is usually required by employers.
- Registration with l'Ordre des Technologues en Radiologie du Québec is required in Quebec.

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Registered Nurses and Nurse's Aides

Overview: This occupational group includes registered nurses, registered psychiatric nurses and graduates of a nursing program who are awaiting registration (graduate nurses).

People in this occupation give direct nursing care to patients, deliver health education programs and provide consultative nursing services. They work in a variety of settings, including hospitals, nursing homes, extended care facilities, rehabilitation centres, doctors' offices, clinics, community agencies, companies and private homes, or they may be self-employed. They must have a strong knowledge base in the biological, psycho-social and nursing sciences and must also have good problem-solving and communication skills, good judgment, patience and strong interpersonal skills.

In addition, people in this occupation need compassion, dependability, maturity, self-discipline and the ability to multi-task in a complex and fast-paced environment. They must be able to work well with others and they must also be able to handle high levels of stress associated with emergencies and medical conditions.

Duties:

People in these occupations perform some or all of the following duties:

- Check patients to identify the right nursing treatments.
- Work with a health team to put in place and evaluate patient care in consultation with patients and their families.
- Give medications and treatments as outlined in the Health Professions Act or as prescribed by a physician or according to established policies.
- Keep track of and report symptoms and changes in patients' conditions.
- Operate or check medical apparatus or equipment.
- Registered nurses help in surgery and other medical procedures.
- Registered psychiatric nurses generally provide care to people with mental health and addictions issues.
- May supervise other nursing staff.
- May set up a patient discharge planning process.
- May teach and counsel patients and their families on health-related issues alongside other health-care providers.

Hospital nurses:

- Give bedside nursing or direct care.
- Talk with physicians and other members in the health-care team about an effective care plan.
- May also supervise the care of patients by licensed practical nurses (LPNs) and nurses aides.



- Registered nurses may specialize in surgery, critical care, maternity, pediatrics, geriatrics, psychiatry or emergency rooms.
- Registered psychiatric nurses may specialize in forensic psychiatry, emergency mental health, crisis stabilization, eating disorders, child and youth mental health, addictions/withdrawal management, perinatal mental health, developmental disabilities, or psychogeriatric care.

Long-term care nurses:

- Manage nursing care for residents with conditions ranging from fractures to Alzheimer's disease.
- Develop care plans for residents.
- May supervise LPNs and aides.

Community health nurses:

- Work in government, community health centres, private agencies, clinics, schools, retirement homes and other community settings.
- Provide direct care or make referrals to other health-care providers.
- May provide home-care services.
- May take part in health education, health support and illness prevention for individuals, families and community groups.

Private duty nurses:

- Care for patients needing constant attention.
- Work either directly for families on a contract basis or for a nursing or temporary help agency that assigns them to patients.

Office nurses:

- Help physicians in private practice, clinics, and emergency medical centres.
- Registered nurse get patients ready for examinations, give injections and medications, dress wounds and incisions, and assist with minor surgery.
- Registered psychiatric nurses generally provide care to people with mental health and addictions issues in these settings.
- May also perform routine laboratory and office work.



Occupational health nurses:

- Give nursing care at work sites to employees, customers, and others with minor injuries and illnesses.
- Provide emergency care, prepare accident reports and arrange for further care if necessary.
- Offer health counselling, help with health examinations and vaccinations, and work on accident-prevention programs.
- Registered psychiatric nurses generally focus on occupational mental health.

Nursing consultants:

- Consult to institutes, associations and health care organizations on issues and concerns related to the profession and nursing practice.

Nursing researchers:

- Engage in research activities related to nursing.
- Are either self-employed or employed by hospitals, public or private organizations, or government.

Clinical nurses:

- Provide leadership, advice and counsel on provision of care for specific patient groups within the care of particular health care organizations.

Key Skills: Social, Directive, Clerical Ability, Manual Dexterity and General Learning Ability

Salary Range: The average salary for this occupation in BC is \$45,883 – \$89,681

Job Requirements:

Registered nurses must complete a recognized college or university registered nursing program. Other training requirements include:

- Completion of secondary school with appropriate English, math and science courses for admission to nursing programs.
- For practice as a registered nurse, completion of a bachelor's degree in nursing.
- For practice as a registered nurse, passing the Canadian Registered Nurse Exam prior to being licensed.
- For practice as a registered psychiatric nurse, completion of a diploma or degree in psychiatric nursing.



- For practice as a registered psychiatric nurse, passing the Registered Psychiatric Nurses of Canada Examination prior to being licensed.
- Additional academic training or experience to specialize in a specific area of nursing.
- A master's or doctoral degree in nursing for clinical nurse specialists, clinical nurses, nurse practitioners, nursing educators, nursing consultants and nursing researchers.

The Canadian Nursing Association (CNA) offers a voluntary certification program that allows registered nurses to write a national exam in one of 19 areas of specialization. For a list of these programs and their descriptions see the CNA website at www.cna-aiic.ca.

Workers already licensed or certified in another province or territory in a provincially regulated occupation will have their credentials recognized in B.C. For more detailed information, contact the provincial regulator. A list of provincial regulators can be found at www.tilma.ca/pdf/BCRegulatoryAuthorities.pdf.

For program information on public post-secondary education in B.C., please see the Education Planner website at www.educationplanner.ca.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland/Southwest
2. Vancouver Island / Coast
3. Thompson-Okanagan



Occupational Therapists

Overview: Occupational therapists help people whose capabilities have been impaired by illness, injury, developmental disorders, emotional or psychological disorders or the aging process.

People in this occupation:

- Develop individual and group programs to promote, develop, restore and maintain participation in all aspects of a person's life.
- Help people care for themselves, return to work and resume community activities.
- Develop and implement health promotion programs with individuals, community groups and employers.
- May be self-employed.
- Work for health care facilities, in schools, and by private and social services agencies.
- Need advanced critical thinking, communication and interpersonal skills.
- Must be empathetic, creative and have good judgment.
- Must be able to analyze and apply research to everyday practise.
- Must be self-sufficient and work as part of a team.

Duties:

Occupational therapists:

- Analyse clients' capabilities and expectations related to life activities through observation, interviews and formal assessments.
- Develop intervention programs to address clients' needs related to self-care, work and leisure activities.
- Maintain clients' records.
- Establish personalized care plans working as a member of an interdisciplinary team Consult and advise on health promotion programs to prevent disabilities and to maximize independent function in all activities of life.
- May supervise support personnel and students and provide training.

Occupational therapists may specialize in working with specific populations such as children or adults, or persons with distinct problems such as dementia, traumatic brain injury and chronic pain. They may also provide special interventions such as return-to-work programs.

Key Skills: Social, Directive, General Learning Ability, Motor Coordination, Manual Dexterity and Innovative

Salary Range: The average salary for this occupation in BC is \$64,654 - \$87,595.



Job Requirements:

Education, training & qualifications:

Beginning in 2010, the Canadian Association of Occupational Therapists (CAOT) only grants accreditation to graduates with a master's degree in occupational therapy.

Registration to practice in B.C. requires:

- Graduation from a college-approved program or demonstration that a program is equivalent to the degree earned in B.C.
- Field work and accreditation by the Canadian Association of Occupational Therapists.

The University of British Columbia (UBC) is currently the only institution in the province that offers a college-approved program in occupational therapy. For more information, visit the UBC School of Rehabilitation Sciences website at osot.ubc.ca.

Occupational Therapists must be registered members of the College of Occupational Therapists of British Columbia (COTBC) to legally practise in the province. The COTBC is the regulatory body that sets entry to practice requirements (establishing education qualifications; fieldwork requirements; entry level competencies and registration requirements); setting standards for practice and ethical conduct; and implementing quality assurance programs such as continuing competence standards to assure continued safe, quality practice.

As of July 1, 2017 when the Canadian Free Trade Agreement (CFTA) came into force, you will not need significant additional training, experience, testing or assessment if your qualifications or certificates are recognized by a Canadian regulatory authority. This applies whether you were trained in Canada or internationally. Learn about labour mobility at www.workersmobility.ca. For information about labour mobility and foreign qualifications recognition, contact the B.C. regulator for your occupation.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest
2. Vancouver Island/Coast
3. Thompson-Okanagan



Physiotherapists

Overview:

People in this occupation:

- Plan and implement individual treatment programs to maintain, improve or restore physical functioning, alleviate pain and prevent physical dysfunction in patients.
- Work for hospitals, clinics, industry, sports organizations, rehabilitation centres and extended care facilities.
- May work in private practice.
- Need a thorough understanding of anatomy and pathology.
- Must be highly observant and skilled in critical thinking in order to make safe and effective clinical decisions.
- Need leadership and teamwork skills to coordinate with other health professionals.

Duties:

Physiotherapists:

- Assess patients' physical abilities through detailed history analysis and evaluative outcome measurements and hands-on tests.
- Develop treatment goals based on diagnosis with the patient or the patient's family.
- Set up physiotherapy programs (.e.g., exercise, electrotherapy, education, etc.) based on individual needs and abilities.
- Evaluate results to track patient improvement or to modify treatment.
- Communicate with health-care professionals and team members about patient needs.
- Maintain detailed records of patients' treatment and progress.
- Do research in physiotherapy and related fields.
- Develop physical health promotion programs and screening tools.
- Provide education and consulting services to the public and other health-care professionals.

In some public practices (e.g., acute care) there is an increased trend toward discharge planning due to increased caseload, increase in patient acuity, a reduction in outpatient services and earlier discharges from hospitals.

The trend of early discharge impacts private practice physiotherapy since clinics are providing sub-acute care for post-surgical joint replacements and neurological conditions previously provided through inpatient or outpatient services.



Key Skills: General Learning Ability, Directive, Social, Manual Dexterity and Motor Coordination

Salary Range: The average salary for this occupation in BC is \$43,276 - \$82,381.

Job Requirements:

Education, training & qualifications:

The minimum entry-level qualification for B.C. physiotherapists to practise is a Master of Physical Therapy degree.

The University of British Columbia (UBC) is the only institution in B.C. that currently offers the Master of Physical Therapy degree. UBC also offers a PhD program for individuals who would like to undertake further research in rehabilitation sciences. For more information on these programs visit the UBC Department of Physical Therapy website at www.physicaltherapy.med.ubc.ca/Home.htm.

In order to practice in B.C., physiotherapists must also be registered with the College of Physical Therapists of British Columbia (CPTBC). For more information on qualifications please view the CPTBC website at www.cptbc.org.

Most private clinics in B.C. prefer that new graduates have some experience in the public system so that they will be comfortable in dealing with acute patients and will have gained wide experience under the guidance of the mentorship available in hospital physiotherapy departments. Most public practice settings offer casual or part-time positions only, and it may take over a year for the new graduate to get a full-time position.

It is recommended that physiotherapists complete advanced training in areas of interest after graduation. There are over 30 different areas of specialization in physiotherapy career. There are courses offered by the Canadian Physiotherapy Association as well as by recognized leaders in the field.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest
2. Thompson-Okanagan
3. Vancouver Island/Coast



Psychiatrists

Overview:

People in this occupation:

- Diagnose and treat diseases and physiological or psychiatric disorders.
- Act as consultants to other physicians.

Duties:

Psychiatrists:

- Diagnose and treat diseases and physiological or psychiatric disorders.
- Order laboratory tests, X-rays and other diagnostic procedures.
- Prescribe medication and treatment.
- Refer patients for surgery.
- Act as consultants to other physicians.
- May do medical research.

Key Skills: Verbal and Written Comprehension, Manual Dexterity, Social, Clerical Ability

Salary Range: The average salary for this occupation in BC is \$123,315.

Job Requirements:

Specialist physicians:

- A bachelor of science degree or in Quebec, completion of a college program and one year of pre-medicine university studies is usually required.
- Graduation from an approved medical school and specific specialty training are required.
- Completion of the certifying examinations of the Royal College of Physicians and Surgeons of Canada
- Licensing by the provincial or territorial licensing authority are required.

Specialists in Psychiatry:

- Four to five years of specialty residency training are required.
- Two years of subspecialty training may also be required.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest

WorkBC

FIND YOUR FIT



2. Vancouver Island/Coast
3. Thompson-Okanagan



Social/Community Workers

Overview:

Social workers:

- Help individuals, couples, families, groups, communities and organizations develop the skills and resources they need to enhance social functioning and provide counselling, therapy and referral to other supportive social services.
- Respond to other social needs and issues such as unemployment, racism and poverty.
- Work for hospitals, school boards, social service agencies, child welfare organizations, correctional facilities, community agencies, employee assistance programs and First Nation band councils.
- May work in private practice.
- Work with community-based groups and organizations doing support and social service work.
- May be involved in community development and may also work in international development with non-governmental organizations.
- Must be empathetic, understanding and able to work in difficult situations.
- Must have computer skills since a portion of the work is now completed online.

Duties:

Social workers perform some or all of the following duties:

- Interview clients individually, in families, or in groups, to assess their situation and problems and determine the types of services required.
- Provide counsel and therapy to assist clients in developing skills to deal with and resolve their social and personal problems.
- Plan programs of assistance for clients including referral to agencies that provide financial assistance, legal aid, housing, medical treatment and other services.
- Investigate cases of child abuse or neglect and take authorized protective action when necessary.
- Serve as members on interdisciplinary teams of professionals working with client groups.
- Act as advocates for client groups in the community, lobby for solutions to problems directly affecting client groups and develop prevention and intervention programs to meet community needs.
- Develop or advise on social policy legislation, conduct social research and assist in community development.
- Provide mediation services and psychosocial assessments.
- Evaluate the effectiveness of counselling and social programs.



- May provide public education and consultation to professionals or groups regarding counselling services, issues and methods.
- May supervise other social workers.

Key Skills: Verbal and Written Comprehension, Social, Clerical Ability, Directive, Detail-Oriented and Manual Dexterity

Salary Range: The average salary for this occupation in BC is \$39,626 – \$95,938.

Job Requirements:

A university degree in social work is mandatory in this province. Other requirements may include:

- A master's degree
- Supervised practical experience
- Passing written and/or oral provincial exams
- Additional training to work in certain areas of social work, such as child protection

Qualified applicants with degrees from related fields (i.e., Youth and Child Care) may also be considered for employment.

Social Work is a regulated profession and social workers are required to be registered with the British Columbia College of Social Workers unless they work for an exempt employer.

As of July 1, 2017 when the Canadian Free Trade Agreement (CFTA) came into force, you will not need significant additional training, experience, testing or assessment if your qualifications or certificates are recognized by a Canadian regulatory authority. This applies whether you were trained in Canada or internationally. Learn about labour mobility at www.workersmobility.ca. For information about labour mobility and foreign qualifications recognition, contact the B.C. regulator for your occupation.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest
2. Vancouver Island/Coast
3. Thompson-Okanagan



Software Engineer and Designer

Overview: Software engineers and designers research, design, integrate, evaluate and maintain software applications, technical environments, operating systems, embedded software, information warehouses and telecommunications software.

Workers in these occupations:

- Plan, develop and maintain the software needed for technical environments, including all of the applications, operating systems and protocols.
- Are responsible for ensuring that safety-critical systems, such as aerospace products, instrumentation and control products, and control systems in cars, are reliable, effective and efficient.
- Are employed in information technology consulting firms that provide software-related information technology services.
- Are employed in information technology research and development firms or in information technology units throughout the private and public sectors.
- May be self-employed.
- Should have an interest in current techniques and technologies for developing software, as well as the business processes for which the software is being developed.
- Must have strong interpersonal and communication skills.
- Must have knowledge of quality assurance techniques, software tools and skills in problem solving and critical thinking.

Duties:

Software engineers and designers perform some or all of the following duties:

- Collect and document user requirements and develop logical and physical specifications.
- Research, evaluate and synthesize technical information to design, develop and test computer-based systems.
- Develop data, process and network models to optimize architecture and to evaluate the performance and reliability of designs.
- Plan, design and coordinate the development, installation, integration and operation of computer-based systems.
- Assess, test, troubleshoot, document, upgrade and develop maintenance procedures for operating systems, communications environments and applications software.
- Lead and coordinate teams of information systems professionals in the development of software and integrated information systems, process control software and other embedded software control systems.



Key Skills: Detail-Oriented, Directive, Finger Dexterity, Innovative, Motor Coordination, Numerical Ability

Salary Range: The average salary for this occupation in BC is \$40,106 – \$106,950.

Job Requirements:

Software engineers and designers usually must complete a bachelor's degree in software engineering, computer engineering, computer science or an appropriate related discipline. Participation in an undergraduate co-op program is highly recommended.

Information Systems Professional (ISP) designation is available to those who have graduated from an accredited computer science or information systems program or have passed the examination offered by the Institute for Certification of Computing Professionals.

You may contact the Information Systems Professionals of Canada at www.cips.ca.

Other beneficial qualifications for a person in this occupational group include:

- Membership in a professional association, which may be required by some employers, particularly for software engineering jobs that involve public safety or supervisory work
- A master's or doctoral degree in a related discipline

In order to use the title of “Engineer,” an individual must be a member of an association of professional engineers.

Attending a Canadian Engineering Accreditation Board (CEAB) accredited program is a prerequisite for attaining membership in the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Once academic qualifications are met, a software engineer graduate can apply for an Engineer-In-Training membership through APEGBC, while acquiring the four years of experience required to register as a Professional Engineer. Continuing professional development is always encouraged and may be required for membership in APEGBC, which offers courses, self-directed studies, seminars and other educational opportunities for its members.

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest
2. Vancouver Island/Coast
3. Thompson-Okanagan



Web Designers and Developers

Overview: Web designers and developers plan, organize and produce web design concepts and create Internet and intranet sites for client websites.

People in this occupation:

- Often work with a development team (writers, graphic artists, programmers, etc.) to develop a website.
- May be employed by computer software development firms, consulting firms, by private and public sectors or may be self-employed.
- Must have excellent technical, conceptualization and communication skills in order to determine client needs and create an appealing and functional website.
- Must be able to prepare and optimize website content using a variety of software (i.e., graphic, database, web authoring).

Duties:

Web designers and developers perform some or all of the following duties:

- Consult with clients to develop and document website requirements.
- Prepare mock-ups and storyboards.
- Develop website architecture and determine hardware and software requirements.
- Source, select and organize information for inclusion and design the appearance, layout and flow of the website.
- Create and optimize content for the website using a variety of graphics, database, animation and other software.
- Plan, design, write, modify, integrate and test website related code.
- Conduct tests and perform security and quality controls.
- May lead and co-ordinate multidisciplinary teams to develop website graphics, content, capacity and interactivity.
- May research and evaluate a variety of interactive media software products.

Key Skills: Verbal and Written Comprehension, Finger Dexterity, Spatial Perception, Innovative, Detail-Oriented

Salary Range: The average salary for this occupation in BC is \$32,077 – \$86,907.



Job Requirements:

Web designers and developers may be required to have a bachelor's degree, usually in computer science, communications or business. Other training may include:

- Successful completion of a college program, or a diploma program from a private institution in computer science, graphic arts, web design or business.

Other beneficial qualifications for a person in this career include:

- Experience as a computer programmer or graphic designer
- A web portfolio
- Ongoing study of the latest advancements in computer technology
- Ongoing skill upgrades to keep current with changing IT trends
- Project management skills
- Credentials in both web design and communications or marketing

Regions in B.C. with Promising Outlook: *(include map to highlight these areas)*

1. Mainland / Southwest
2. Vancouver Island/Coast
3. Thompson-Okanagan