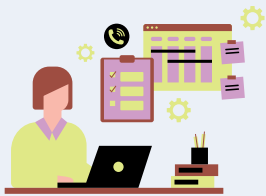# Occupational Profile

FOCAL Initiative

Cybersecurity Specialists

Organizations handle and store sensitive data on their servers and computers, including proprietary information, employees' records, account information and more. Mishandling this information can be damaging and dangerous to an organization. Cybersecurity Specialists develop, improve and monitor security measures to protect an organization's computer networks and connected devices to prevent malicious access of information and the systems they reside in. Increased digital recordkeeping and data dissemination has led to an increase in demand for cybersecurity specialists in Canada.
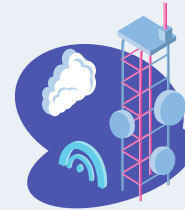
Where do Cybersecurity Specialists work?

Government Administration

Insurance and Credit Intermediation

Computer System Design and Related Services

Telecommunications Carriers

Management, Scientific and Technical Consulting

What do Cybersecurity Specialists do?

Cybersecurity Specialists monitor digital security and develop security protocols and programs in organizations to ensure that data access and computers, networks, and associated technology are not mishandled or exposed to malicious activity from outside sources.

- Confer with clients to identify and document requirements, assess physical and technical security risks to data, software and hardware
- Apply encryption protocols, and manage keys to ensure security of data is maintained while at rest and in transit
- Monitor for cyber attacks, intrusions and unusual, unauthorised or illegal activity
- Plan and carry out security measures in response to cybersecurity events and incidents in accordance with an organization's incident response plan to protect information, data and systems

Career pathways & potential earnings of Cybersecurity Specialists

Cybersecurity Specialists can progress into senior management and executive roles with adequate experience and knowledge:

Cybersecurity Specialist

Cybersecurity Specialists earn starting wages of $25/hr, but wages can scale, with earning going up to $62/hr with experience and skill.

Cybersecurity Managers

Skilled cybersecurity specialists can transition to managerial roles, and earn up to $77/hr.

Chief Security Officers

Cybersecurity professionals in senior managers are responsible for meeting security needs for entire organizations, earning up to $160/hr.

Cybersecurity Specialists can also apply their skills and expertise in other occupations such as the following:

- Information System Analysts and Consultants
- Information System Testing Technicians
- Computer Testing Technicians

How do I become a Cybersecurity Specialist?

There are some educational, licensing and training requirements to become a Cybersecurity Specialists. Some requirements may vary by province or company. Below are the most commonly required qualifications to work as a Cybersecurity Specialist:

- **Minimum Education:** A bachelor's degree in computer science, computer security, computer systems engineering, information systems or completion of a college program in information technology, network administration or other computer science related program is usually required.
- **Certification, Licensing and Training:** Certification or training provided by software vendors may be required by some employers.

Education & Training

Important skills to have as a Cybersecurity Specialist?

Cybersecurity Specialists exercise analytical skills and critical thinking consistently, due to the complex and multifaceted nature of networking and security. A deep knowledge of programming and hardware is necessary to be able to adapt to rapid changes in technology, which effect both systems and the intrusions that affect them.

Technical Knowledge and Skills

- Computers and Electronics
- Systems Analysis and Evaluation
- Quality Control Analysis
- Programming
- Operations Monitoring
- Telecommunications

Soft Skills

- Perceptual Speed
- Information Ordering
- Problem Sensitivity
- Complex Problem Solving
- Oral & Written Comprehension
- Critical Thinking

Future of Cybersecurity Specialists in Canada

Jobs and Recruitment

Cybersecurity Specialists provide important services to businesses, and find employment in a variety of sectors. In 2021, more than 14,650 Specialists were employed across Canada's sectors and industries. Increasing trends of digitization in the Canadian economy and greater automotive manufacturing sector will increase the demand for skilled information technology workers, including Cybersecurity Specialists over the next decade.

Learn more about the job market for cybersecurity specialists, as well as about many other developments and new technologies in Canada's automotive manufacturing by visiting our website futureautolabourforce.ca.
You can also check our social media by following these links:

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