

CYBERSECURITY & THREAT MANAGEMENT (CYT)

About the Program

As digital innovation continues to rapidly advance, it is becoming increasingly difficult for organizations to keep up with the changing nature of cybersecurity threats.

With a shortage of cybersecurity professionals across Canada, this program was designed and developed with leading financial services organizations to meet the need for individuals with the specialized skills to secure, protect and defend mobile and network infrastructures, preventing fraud, data breaches and other vulnerabilities.

As a graduate of this eight-month Cybersecurity and Threat Management program, you will be equipped with cutting-edge best practices and skills in communication, information security, project management, problem-solving and more. The industry capstone project and optional work term will give you hands-on experience and position you for a career in one of the world's fastest-growing fields.

Students in this program will be required to attend courses at Newnham Campus as well as online.

Computer Requirements

- 16 GB RAM minimum
- 256 GB SSD Hard Drive (500+ GB would be better)
- Quad-core i7 2.4GHz or better
- Video card (2GB RAM minimum/4GB RAM recommended)
- Webcam

Part-time option is available > (<http://www.senecapolytechnic.ca/ce/technology/network-database-system/cybersecurity-threat-management.html>)

Credential Awarded

Ontario College Graduate Certificate

Duration

2 Semesters (8 Months)

Starts

January, September

Program and Course Delivery

This program is offered in Seneca's hybrid delivery format. Some coursework is online and some must be completed in person. Students will need to come on campus to complete in-person learning requirements.

Skills

Throughout this program you will develop the following skills:

- Business communication
- Project management
- Design thinking

- Research
- Communication skills

Work Experience

Optional Work Term

This program offers the option to complete a work term, providing valuable hands-on experience in your field of study.

Students who select the work term stream will have the opportunity to participate in a work term(s) if eligibility requirements are maintained. Students will have the flexibility to transfer to the non-work term stream at any time. The work term(s) is similar in length to an academic semester and is typically a full-time position that may be paid or unpaid. The work term job search is student-driven and participation in the work term stream does not guarantee that a work position will be secured. However, students will receive guidance and support through in-class career workshops and one-on-one coaching to help prepare for the work term.

Review eligibility requirements for work-integrated learning (<https://www.senecapolytechnic.ca/employers/seneca-works/work-integrated-learning/eligibility.html>)

Work-Integrated Learning Model

Year	September	January	May
Year 1	Semester 1	Semester 2	Work Term

Your Career

Graduates of the program can explore the following career options:

- Information security analyst
- Threat analyst
- Cybersecurity analyst
- Ethical hacker
- IT systems and network administrator

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
CYT100	Information Security Principles and Policies	3
CYT115	Security Architecture; OS, Mobile and Network	4
CYT130	Ethical Hacking and Vulnerability Testing	4
CYT145	IT Security: Ethical and Legal Issues	3
CYT160	Security for Cloud and Internet of Things	4
CYT180	Data Analytics for Cybersecurity	4
Semester 2		
CYT200	Communication Skills for Cybersecurity Professionals	4
CYT215	IT Security Forensics	4
CYT230	Mobile Application Security Assessment	4
CYT250	Threat Investigation	4
CYT260	Project Management	2

CYT275	Authentication and Access Control	2
CYT300	IT Security Capstone Project	4
WTP100	Work Term Preparation *	1
Work-Integrated Learning Term		
CYT441	Cybersecurity and Threat Management, Work Term *	30

* Work-Integrated Learning option only

Program Learning Outcomes

This Seneca program has been validated by the Credential Validation Service as an Ontario College Credential as required by the Ministry of Colleges and Universities.

As a graduate, you will be prepared to reliably demonstrate the ability to:

- Design and formulate information security solutions for business processes and underlying technologies to protect the organization from internal and external threats.
- Create and document processes required for the maintenance and deployment of information controls solutions.
- Apply design thinking to ensure information security solutions are adopted and used within an organization.
- Devise and implement information security solutions in compliance with security policies, standards, and regulations.
- Apply project management practices in multidisciplinary teams across an organization to respond to the enterprise's information security requirements.
- Evaluate the reliability of information security controls through security audits to identify and address risks.
- Contribute to the development and delivery of internal cybersecurity training to increase awareness and compliance with security policies.
- Apply presentation and report-writing skills to ensure understanding of information security protocols, policies and audit results.
- Communicate professionally and collaboratively with internal and external stakeholders in support of business decision-making.
- Analyze vulnerability using threat intelligence tools to identify and recommend potential solutions to security issues.

Admission Requirements

- Ontario university/college degree, college diploma, advanced diploma or equivalent in an area of Information Technology: computer engineering, software, hardware, networking or a related discipline.

Applicants with a degree or diploma in another discipline with demonstrated knowledge of IT Networking will be considered for Admission.

Applicants with significant related work experience that is the equivalent of the above may be considered for Admission. A relevant resume and references must be provided.

- English proficiency (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/english-proficiency.html>) at the postsecondary level.

Canadian citizens or permanent residents educated outside of Canada must provide a World Education Services (WES) or ICAS Canada credential evaluation.

Additional Information

If your credential is in a non-IT related discipline, the networking knowledge requirement can be fulfilled by successfully completing a networking introductory course such as DCF255 – Data Communications Fundamentals (<https://www.senecapolytechnic.ca/ce/classes/DCF255.html>) through Seneca Continuing Education.

International Student Information

International admissions requirements vary by program and in addition to English requirements (<https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/english-requirements.html>), programs may require credits in mathematics, biology, and chemistry at a level equivalent to Ontario's curriculum, or a postsecondary degree or diploma, equivalent to an Ontario university or college. Program-specific pre-requisite courses and credentials are listed with the admission requirements on each program page. To review the academic requirements please visit: Academic Requirements - Seneca, Toronto, Canada ([senecapolytechnic.ca](https://www.senecapolytechnic.ca)) (<https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/academic-requirements.html>).

Pathways

As a leader in academic pathways, we offer a range of options that will allow you to take your credential further in another Seneca program or a program at a partner institution.

To learn more about your eligibility, visit the Academic Pathways (<https://www.senecapolytechnic.ca/pathways.html>) web page.