

CYBERSECURITY

Program: CYBE

Credential: Ontario College Graduate Certificate

Delivery: Full-time + Part-time

Work Integrated Learning: 1 Co-op Work Term

Length: 2 Semesters, plus 1 work term

Duration: 1 year

Effective: Fall 2023, Winter 2024, Summer 2024

Location: Barrie

Description

Students prepare for careers involving the development, evaluation, and support of cybersecurity solutions. Building on previous educational experience, students learn to create cost-effective and secure computing environments. Students develop the knowledge and skills to categorize, design, implement and integrate technical safeguards to ensure the security of information systems. Emphasis is placed on cultivating the interpersonal, organizational, technical, communication, and problem-solving skills applied to enhance the effective implementation of security in a business environment.

Career Opportunities

The need for organizations to build and maintain secure network and information systems has created demand for skilled computer and network systems security specialists. Chief Information Officers and Information Technology Managers charged with the need to plan and implement security controls and infrastructure to protect corporate information systems will increasingly require the skills of security specialists. Career opportunities may be available in both public and private sector organizations including the financial sector, health care, education and more. Graduates may gain employment as administrators, technicians, security analysts or penetration testers.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. develop cybersecurity strategies for the deployment of network security procedures and network security devices;
2. establish security plans and strategies for proper use and protection of information assets including contingency and disaster plans in compliance with best practices, standards, and regulations;
3. deploy and manage cybersecurity systems and optimize system settings in order to 'harden' information systems;
4. establish best practices to protect business resources from vulnerabilities and exploits;
5. create acceptable use policies for business information systems;
6. create acceptable risk management and general security management policies for business information systems;
7. implement and conduct penetration testing to identify and exploit an organization's network system vulnerability;
8. configure and manage logging software, and apply log analysis and forensic investigation techniques to ensure and report on compliance with cybersecurity plans, policies, standards, and regulations;
9. apply basic entrepreneurial strategies to identify and respond to new opportunities in the information security field;

10. investigate and employ environmentally sustainable practices within the cybersecurity field.

Practical Experience

All co-operative education programs at Georgian contain mandatory work term experiences aligned with program learning outcomes. Co-op work terms are designed to integrate academic learning with work experience, supporting the development of industry specific competencies and employability skills.

Georgian College holds membership with, and endeavours to follow, the co-operative education guidelines set out by the Co-operative Education and Work Integrated Learning Canada (CEWIL) and Experiential and Work-Integrated Ontario (EWO) as supported by the Ministry of Colleges and Universities.

Co-op is facilitated as a supported, competitive job search process. Students are required to complete a Co-op and Career Preparation course scheduled prior to their first co-op work term. Students engage in an active co-op job search that includes applying to positions posted by Co-op Consultants, and personal networking. Co-op work terms are scheduled according to a formal sequence that alternates academic and co-op semesters as shown in the program progression below.

Programs may have additional requirements such as a valid driver's license, strong communication skills, industry specific certifications, and ability to travel. Under exceptional circumstances, a student may be unable to complete the program progression as shown below. Please refer to Georgian College Academic Regulations for details.

International co-op work terms are supported and encouraged, when aligned with program requirements.

Further information on co-op services can be found at www.GeorgianCollege.ca/co-op (<https://www.georgiancollege.ca/co-op/>)

Program Progression

The following reflects the planned progression for full-time offerings of the program.

Fall Intake

- **Sem 1:** Fall 2023
- **Sem 2:** Winter 2024
- **Work Term:** Summer 2024

Winter Intake

- **Sem 1:** Winter 2024
- **Sem 2:** Summer 2024
- **Work Term:** Fall 2024

Summer Intake

- **Sem 1:** Summer 2024
- **Sem 2:** Fall 2024
- **Work Term:** Winter 2025

Admission Requirements

- Post-secondary diploma or degree with a focus in computer science, computer engineering or computer networking, or

equivalent work experience in computer networks, operating systems and programming.

Selection Process

Applicants will be asked to submit a current resume and letter of interest to the Program Coordinator. Academic and experiential learning of all applicants will be assessed.

Criminal Reference/Vulnerable Sector Check

Placement agencies require an up-to-date clear criminal reference check and vulnerable sector check prior to going out on placement. Students should obtain their criminal reference three months prior to placement; checks conducted earlier may not be considered current. As some jurisdictions require longer lead-time for processing, please check with the program coordinator to ensure you allow for sufficient turn-around time. It is the student's responsibility to provide the completed document prior to placement start.

NOTE: A record of criminal offences, for which a pardon has not been granted, may prevent students from completing their placements, thereby affecting their ability to graduate.

Additional Information

To be successful in this program, you are required to have a personal notebook computer prior to the start of the program that meets or exceeds the following hardware specifications:

- Intel i5 processor or AMD equivalent
- 16GB of memory
- 500GB hard drive (SSD recommended)

Additional operating systems, security tools, and software used in the program will be provided to the student upon commencement of the program.

Graduation Requirements

12 Program Courses

1 Co-op Work Term

Graduation Eligibility

To graduate from this program, a student must attain a minimum of 60% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester. The passing weighted average for promotion through each semester and to graduate is 60%.

Program Tracking

The following reflects the planned course sequence for full-time offerings of the Fall intake of the program. Where more than one intake is offered contact the program co-ordinator for the program tracking.

Semester 1		Hours
Program Courses		
NETS 1015	Security Management	42
NETS 1025	Network Security 1	42
NETS 1026	Windows Systems Security	42
NETS 1028	Linux Systems Security	42
NETS 1035	Applied Cryptography	42

NETS 1039	Cloud Security	42
Hours		252

Semester 2

Program Courses

NETS 1006	Contingency Planning and Disaster Recovery	42
NETS 1030	Network Security 2	42
NETS 1032	Digital Forensics	42
NETS 1034	Hacking Techniques and Exploits	42
NETS 1037	Monitoring and Log Management	42
NETS 1038	Application Security	42
Hours		252

Total Hours

504

Co-op Work Term

COOP 1050	Information Systems Security Work Term	560
Hours		560

Total Hours

560

Graduation Window

Students unable to adhere to the program duration of one year (as stated above) may take a maximum of two years to complete their credential. After this time, students must be re-admitted into the program, and follow the curriculum in place at the time of re-admission.

Disclaimer. *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.