

COMPUTER SYSTEMS TECHNICIAN - NETWORKING

Program: CSTN

Credential: Ontario College Diploma, Co-op

Delivery: Full-time + Part-time

Work Integrated Learning: 2 Co-op Work Terms

Length: 4 Semesters, plus 2 work terms

Duration: 2 Years

Effective: Fall 2021, Winter 2022, Summer 2022

Location: Barrie

Description

In this program, students focus on networking, operating systems, system administration, virtualization, and security related to new computer networks and the maintenance of existing computer networks. As an official Cisco Networking Academy partner, certified instructors assist students preparing for industry recognized certifications such as the Cisco Certified Network Associate (CCNA) Routing and Switching. Students gain experience in problem solving, and effective oral and written communications through examination of current industry trends and requirements. Students acquire professional and entrepreneurial skills for industry and self-employment, as well as real life experience through participation in co-op work terms.

Career Opportunities

Graduates can choose to work independently or as a member of a team to support the development, implementation, and maintenance of computer systems and networks. Graduates with networking interests/skills generally can find employment as data communications and network technical support specialists or network administrators. Graduates with hardware interests/skills generally can find employment as computer operations specialists in many types of businesses and government.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. identify, analyze, develop, implement, verify and document the requirements for a computing environment;
2. contribute to the diagnostics, troubleshooting, documenting and monitoring of technical problems using appropriate methodologies and tools;
3. implement and maintain secure computing environments;
4. implement robust computing system solutions through validation testing that aligns with industry best practices;
5. communicate and collaborate with team members and stakeholders to ensure effective working relationships;
6. select and apply strategies for personal and professional development to enhance work performance;
7. apply project management principles and tools when working on projects within a computing environment;

8. adhere to ethical, legal, and regulatory requirements and/or principles in the development and management of computing solutions and systems;
9. assist with the implementation of computer systems and cloud solutions;
10. install, configure, troubleshoot, maintain, upgrade and decommission computing system infrastructures;
11. automate routine tasks using scripting tools and programming languages;
12. install and monitor a database management system in response to specified requirements;
13. provide technical support for computing system infrastructures that aligns with industry best practice;
14. describe technologies and techniques that can be used to reduce the impact of information technology on the environment;
15. apply basic entrepreneurial strategies to identify and respond to new opportunities.

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 Education at Work 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 Regulation 3.2.7: *Changes in program, course, section or co-op*, 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](http://www.georgiancollege.ca/co-op) (<http://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 2021
- **Sem 2:** Winter 2022
- **Work Term 1:** Summer 2022
- **Sem 3:** Fall 2022
- **Work Term 2:** Winter 2023
- **Sem 4:** Summer 2023

Winter Intake

- **Sem 1:** Winter 2022
- **Sem 2:** Summer 2022
- **Work Term 1:** Fall 2022
- **Sem 3:** Winter 2023
- **Sem 4:** Summer 2023
- **Work Term 2:** Fall 2023

Summer Intake

- **Sem 1:** Summer 2022
- **Sem 2:** Fall 2022
- **Work Term 1:** Winter 2023
- **Sem 3:** Summer 2023
- **Sem 4:** Fall 2023
- **Work Term 2:** Winter 2024

Articulation

A number of articulation agreements have been negotiated with universities and other institutions across Canada, North America and internationally. These agreements are assessed, revised and updated on a regular basis. Please contact the program co-ordinator for specific details if you are interested in pursuing such an option. Additional information can be found on our website at <http://www.georgiancollege.ca/admissions/credit-transfer/>

Admission Requirements

OSSD or equivalent with

- Grade 12 English (C or U)
- Grade 12 Mathematics (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: www.georgiancollege.ca/admissions/academic-regulations/ (<http://www.georgiancollege.ca/admissions/academic-regulations/>)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit Transfer Centre website for details:

www.georgiancollege.ca/admissions/credit-transfer/ (<http://www.georgiancollege.ca/admissions/credit-transfer/>)

Additional Information

To be successful in this program, students are required to have a personal notebook computer (either PC or Mac architecture) prior to the start of the program that meets or exceeds the following hardware specifications:

- Intel i5 processor or AMD equivalent
- 12GB of memory (16 GB recommended)
- 250GB hard drive (SSD recommended)

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

Graduation Requirements

18 Program Courses
 2 Communications Courses
 1 Program Option Course
 3 General Education Courses
 2 Co-op Work Terms

Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, from year to year, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

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	
COMP 1035 Networking Essentials	42
COMP 1046 Windows System Administration	42
COMP 2018 Linux System Administration	42
MATH 1003 Math for the Computer Industry	42
Communications Course	
Select 1 course from the communications list during registration.	42
General Education Course	
Select 1 course from the general education list during registration.	42
Hours	252
Semester 2	
Program Courses	
COMP 1070 Computer Hardware and Virtualization	42
COMP 1071 Linux Network Administration	42
COMP 1086 Routing and Switching Essentials	42
COMP 1099 Introduction to Python Programming	42
COMP 2017 Windows Server Administration	42
Communications Course	
Select 1 course from the communications list during registration.	42
Hours	252
Semester 3	
Program Courses	
COMP 2078 Emerging Technology and Innovation	42
COMP 2101 Administrative Scripting	42
COMP 2103 Introduction to Information Security	42
COMP 2122 Scaling Networks	42

COMP 2126	Windows Server Administration 2	42
General Education Course		
Select 1 course from the general education list during registration.		42
Hours		252
Semester 4		
Program Courses		
COMP 2075	Wireless Networking	42
COMP 2102	Windows Service Administration	42
COMP 2131	Cloud Computing	42
MGMT 2008	Project Management for Information Technology	42
General Education Course		
Select 1 course from the general education list during registration.		42
Program Option Course		
Select 1 course from the available list during registration.		42
Hours		252
Total Hours		1008
Co-op Work Terms		
		Hours
COOP 1007	Computer Systems Technician Work Term 1 (occurs after Semester 2)	560
COOP 2004	Computer Systems Technician Work Term 2 (Fall Intake occurs after Semester 3, Winter Intake occurs after Semester 4)	560
Hours		1120
Total Hours		1120

Code Title

Program options may include:

COMP 1009	The Mainframe Environment
COMP 1045	Internet of Things using Arduino
COMP 2003	Relational Database
COMP 2104	Data Centre Technologies

Graduation Window

Students unable to adhere to the program duration of two years (as stated above) may take a maximum of four 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.