

# COMPUTER SYSTEMS TECHNICIAN - NETWORKING

**Program:** CSTN

**Credential:** Ontario College Diploma, Co-op

**Delivery:** Full-time + Part-time

**Work Integrated Learning:** 1 Co-op Work Term

**Length:** 4 Semesters, plus 1 work term

**Duration:** 2 Years

**Effective:** Fall 2022, Winter 2023, Summer 2023

**Location:** Barrie

## Description

In this program, students focus on networking, operating systems, system administration, cloud computing, 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 practical experience through participation in a co-op work term.

## 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 information technology analysts and network technical support specialists or network administrators. Graduates with operations and administration interests/skills generally can find employment as system administrators and technical support specialists.

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

## Winter Intake

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

## Summer Intake

- **Sem 1:** Summer 2023
- **Sem 2:** Fall 2023
- **Sem 3:** Winter 2024
- **Work Term 1:** Summer 2024
- **Sem 4:** Fall 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/) (<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/) (<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
- 16GB of memory
- 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
- 1 Co-op Work Term

## 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
<b>Hours</b>		<b>252</b>
Semester 2		
Program Courses		
COMP 1070	Computer Virtualization	42
COMP 1071	Linux Network Administration	42
COMP 1086	Routing and Switching Essentials	42
COMP 2017	Windows Server Administration	42
COMP 1111	Foundations of Scripting using Python	42
Communications Course		
Select 1 course from the communications list during registration.		42
<b>Hours</b>		<b>252</b>
Semester 3		
Program Courses		
COMP 2003	Relational Database	42
COMP 2137	Linux Automation	42
COMP 2103	Introduction to Information Security	42
COMP 2122	Scaling Networks	42
COMP 2139	Cloud Computing Services	42
General Education Course		
Select 1 course from the general education list during registration.		42
<b>Hours</b>		<b>252</b>
Semester 4		
Program Courses		

COMP 2075	Wireless Networking	42
COMP 2131	Cloud Computing	42
COMP 2138	Windows Server and PowerShell	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
<b>Hours</b>		<b>252</b>
<b>Total Hours</b>		<b>1008</b>

<b>Co-op Work Terms</b>		<b>Hours</b>
COOP 1058	Computer Systems Technician Work Term 1	490
<b>Hours</b>		<b>490</b>
<b>Total Hours</b>		<b>490</b>

Code	Title
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**Program options may include:**

COMP 1009	The Mainframe Environment
COMP 1045	Internet of Things using Arduino
COMP 2104	Data Centre Technologies
COMP 3002	Advanced Databases

## 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.*