

COMPUTER SYSTEMS TECHNOLOGY (CTY)

About the Program

This three-year advanced diploma program provides you with knowledge and technical skills in networking and computer system administration. Built on partnerships with industry experts like Cisco, IBM, and Microsoft, our curriculum prepares students to specialize in security, physical and logical network design, as well as enterprise management. This program is comprised of practical courses focusing on hands-on training with computer programs in specialty labs.

Open Sources and Seneca

Seneca's Centre for Development of Open Technology has unparalleled connections with top-tier open source projects such as Mozilla, creators of the Firefox web browser, and Red Hat, maker of the most successful commercial Linux operating system. In the Software Build and Release professional option, you have the opportunity to work with world class developers on such projects.

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/computer-cty.html>)

Credential Awarded

Ontario College Advanced Diploma

Duration

6 Semesters (3 Years)

Starts

January, May, September

Program and Course Delivery

This program is offered in Seneca's hybrid delivery format with some courses available in Seneca's flexible 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. For courses offered in the flexible delivery format, professors use innovative learning spaces and technology to teach students in a classroom or lab and broadcast in real time to students attending remotely. In flexible courses, students have the choice of coming on campus or learning online.

Skills

Throughout this program you will develop the following skills:

- Analyze and resolve information technology problems
- Analyze, plan, design and implement computer systems and networking solutions
- Install and monitor computer systems and networks

- Plan and develop data storage
- Appraise existing security solutions

Work Experience

Optional Co-op

Students meeting all academic requirements may have the opportunity to complete an optional co-op work term(s) in a formal work environment. In most cases the work term(s) is a full-time paid position completed between two academic semesters. In programs with limited co-op opportunities, additional academic requirements and a passing grade on a communication assessment may be required for eligibility. Eligibility for participation does not guarantee a work position will be secured. Additional fees are required for those participating in the optional co-op stream regardless of success in securing a work position.

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

Your Career

Graduates of the program can explore the following career options:

- Technology infrastructure analyst
- Technical systems analyst
- Technical specialist
- Network systems administrator

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
COM101 or COM111	Communicating Across Contexts Communicating Across Contexts (Enriched)	3
CSN105	Introduction to Computers and Networks	4
MST100	Introduction to Microsoft Services	4
OPS145	Introduction to Linux and Unix	4
SPS120	Strategic Problem Solving	3
Semester 2		
CSN205	Static Networks	6
MST200	Microsoft Server Administration	4
OPS245	Open Systems Server	4
SEC220	Introduction to System Security	4
plus: General Education Course (2)		6
Semester 3		
CSN305	Software Defined Networks	4
DAT330	Introduction to Databases	4
MST300	Introduction to Microsoft Cloud Technologies	4
OPS345	Open System Application Server	4
SEC320	Security Incident Response	4
WTP100	Work Term Preparation *	1
plus: General Education Course (1)		3
Work-Integrated Learning Term 1		
CTY331	Computer Systems Technology, Co-op *	30

Semester 4

CSN405	Wireless Networks	4
CSP450	Computer Systems Projects: On Premises Networking and Server Administration	4
EAC594	Business Communication for the Digital Workplace	3
MST400	MS Cloud Administration	4
OPS445	Open System Administration	4
plus: Professional Options (1)		4

Work-Integrated Learning Term 2

CTY332	Computer Systems Technology, Co-op II	30
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Semester 5

CPO570	Process Digitalization	4
CSN505	Internet of Things	4
OPS635	Enterprise Management - Emerging Technology	4
RHT524	Open Source Certification I	4
SEC400	Security Analysis	4
plus: Professional Options (1)		4

Semester 6

APL701	Applied Integration	3
CPO500	Red Hat Academy Exam Preparation	4
CPO570	Process Digitalization	4
RHT634	Open Source Certification II	4
plus: Professional Options (1)		4

Professional Options

Course Code	Course Name	Weekly Hours
CSP451	Computer Systems Projects: Cloud Environments	4
IEL645	Ethical and Legal Issues in IT	4
PMC615	Project Management for IT Professionals	4
SEC660	Security for Cloud and internet of Things	4
SEC703	Advanced Security	4
SPO600	Software Portability and Optimization	4
TEC701	Technical Support for Network Administrators	4
TEC702	Technician as an Entrepreneur	4
WIN500	Windows Server Scripting	4
WIN700	Windows Active Directory Services	4

* 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:

- Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools.
- Analyze, plan, design, and implement computer systems.
- Analyze, plan, design, and implement networking solutions.
- Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize computer systems.
- Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize networks.
- Use a variety of scripting tools and languages to automate routine tasks.
- Participate in the deployment and administration of databases within a networked environment.
- Plan, develop, and be responsible for data storage to ensure the integrity of information.
- Apply knowledge of security issues to the implementation of information technology solutions.
- Appraise existing security solutions with a view to on-going maintenance, development, and improvement of organizational security.
- Provide efficient and effective technical support to clients in a manner that promotes safe computing practices and reduces the risk of the issue recurring.
- Articulate, defend, and conform to workplace expectations found in information technology (IT) environments.
- Contribute to the successful completion of the project applying the project management principles in use.

Admission Requirements

- Ontario Secondary School Diploma (OSSD), or equivalent, or a mature applicant (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html>)
- English: Grade 12 C or U, or equivalent course
- Mathematics: Grade 12 C or U, or Grade 11 U or M, or equivalent course

Canadian citizens and permanent residents may satisfy the English and/or mathematics requirements for this program through successful Seneca pre-admission testing. (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html>)

Recommended upgrading for applicants who do not meet academic subject requirements (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/upgrading-options.html>).

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).

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

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.

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