



With a diploma from Northern's School of Computer Studies, you will join other very successful graduates in high paying and high profile jobs. Government, resource industries, leading telecommunications companies and private computer and software firms are examples of employers that are looking for you!

Features and Highlights

- The Ontario Association of Certified Engineering Technicians and Technologists (OACETT) conditionally recognizes Northern's Computer Engineering Technician program.
- Double diplomas are available just by taking a few additional courses.
- CISCO Networking courses are part of the Computer Engineering Technician program. Successfully complete these courses and you will be able to write the CISCO Certification exam.
- Mesh technology with creativity in the Graphic Design – Electronic Design and Publishing program with its strong emphasis on multimedia.
- Learn how to program in a number of languages including Visual Basic, C++, Java and design and maintain databases using MS Access, SQL and Oracle.

Programs

- Computer Engineering Technician
- Computer Programmer
- Graphic Design – Electronic Design and Publishing
- Information Systems (offered through the School of Business and Office Administration)
- Microcomputer Support Services

Computer Engineering Technician

Length	4 Semesters
Location(s)	(PC) Timmins
Code(s)	NORT-T100-PC

Program of Studies

Semester I

CM1903-A	Communications I
GN1033	Health and Safety
IN1104	IT Essentials I
IN1105	Introduction to Programming
IN3324	Cisco Networking I
MA1004	Mathematics of Finance I

Semester II

CM2903-A	Communications II
BU2003	Human Resource Management I
IN2104	IT Essentials II
IN2105	Markup Languages
IN4324	Cisco Networking II
MA2033	Mathematics of Finances II

Semester III

CM3103	Report Writing
GN2133	Law and Ethics
IN3003	Database Management I
IN3045	Intermediate Programming I
IN3244	Operating Systems I
IN5324	Cisco Networking III
IN4054	Systems Administration

Semester IV

IN4105	Internet Programming
IN4254	Operating Systems II
IN6324	Cisco Networking IV
IN6108	Systems Security
IN6003	Systems Analysis

For program information:

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 Program Coordinator
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Computers are everywhere: in industry, business, vehicles, law enforcement, laboratories and homes. Computer engineering technicians are needed to develop and maintain them! This program addresses many applications for computers including business analysis, robotics, and games. High performance programs that make extensive real-time use of multimedia capabilities, such as simulators and modern computer games are among the most demanding programs to write. Computer engineering technicians maintain software, systems and networks to improve life for society. Students in this program will have access to a number of certifications such as Cisco (CCNA), A+ Certification, Panduit Certification, and Linux Certification.

Employment Opportunities

Graduates will be able to develop and maintain networks, systems, and programs for a variety of applications including robotics and game systems, as well as industry and business applications. Graduates work as programmers, systems analysts, customer service representatives, technical support personnel, network analysts, product consultants, etc.

Admission Requirements

Ontario Secondary School Diploma (OSSD)
 Grade 12 English (C, M, U)
 Grade 12 Math (C, M, U) (MCT4C preferred; MAP4C is accepted with a minimum GPA of 60%)

Or equivalent.

Keyboarding skills are strongly recommended.

Any of the following pairs of high school courses will also be of great benefit.
 Computer and Information Science, Grade 11, University/College Preparation (ICS3M) Computer and Information Science, Grade 12, University/College Preparation (ICS4M) Computer Engineering, Grade 11, University/College Preparation (ICE3M)
 Computer Engineering, Grade 12, University/College Preparation (ICE4M)
 Computer Engineering, Grade 11,
 Workplace Preparation (ICE3E)
 Computer Engineering, Grade 12, Workplace Preparation (ICE4E)

Or mature student status (an applicant who does not have a high school diploma or equivalent, and will have reached the age of 19 years on or before the start of the program). Mature students must undergo academic testing prior to admission into a program. Call the Admissions Office at 705-235-7222 for more details.

Note: Academic prerequisites for this program may be obtained free of charge through Academic Upgrading. Refer to the Post-Secondary Preparation section in this calendar for more details.

Computer Programmer

Learning the language of computers will ensure that the graduate's career in the new media has a secure foundation. The Computer Programmer diploma program is designed to give students the necessary skills to work comfortably with computers no matter what career they choose.

Proficient programmers need a solid understanding of computer hardware to back up their programming skills. This program will help students develop those skills. They will learn to develop program code in a variety of computer languages currently used in industry, such as Visual Basic, C++ and Macro Assembler to support the activities of their organization. To meet the ever-increasing demand for Internet programmers, the curriculum also includes courses on Web Design, Java and Perl. And to make students a marketable commodity, courses in database design, SQL and Oracle are included. Graduates of this program can be expected to function individually or as a member of a team to develop software solutions in the dynamic field of software development.

Computer programmers are in great demand locally, provincially and nationally. Small and large businesses, as well as industry use computer systems in their daily activities. All of them need some degree of computer support for both hardware and software installation, development and maintenance. Computer programmers' functions could include conducting needs assessments, training others, analyzing and defining system specifications, modifying, debugging and testing program code as part of a larger software application, designing and implementing databases and integrating applications with computer systems. All computer skills are portable and there is great potential for career advancement.

Employment Opportunities

The choice of employment opportunities in this field is vast. Graduates may work as programmers, analysts, customer service representatives, technical support personnel, network analysts, product consultants, database designers, network technicians, web designers, computer software consultants, etc. The combination of computer technology with video and communications technology is also making this expanding field a very exciting one.

Admission Requirements

Ontario Secondary School Diploma (OSSD)
Grade 12 English (C, M, U)

Or equivalent.

Or mature student status (an applicant who does not have a high school diploma or equivalent, and will have reached the age of 19 years on or before the start of the program). Mature students must undergo academic testing prior to admission into a program. Call the Admissions Office at 705-235-7222 for more details.

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Length	4 Semesters
Location(s)	(KL) Kirkland Lake
Code(s)	NORT-T084 – KL

Program of Studies

Semester I

CM1903-A	Communications I
GN1903	College Success
IN1014	Computer Fundamentals
IN1035	Networks I
IN1124	Introduction to Programming I
IN1174	Operating Systems I

Semester II

CM2903-A	Communications II
IN2005	Hardware Fundamentals
IN2035	Networks II
IN2124	Introduction to Programming II
IN2184	Operating Systems II

Semester III

CM3073	Technical Writing
IN2254	Logic and Coding
IN3074	C++ Programming
IN3173	Web Design I
IN3183	SQL I (Oracle)
IN3304	Systems Analysis

Semester IV

IN4034	Assembler Programming
IN4044	Web Design II
IN4073	Java Programming
IN4153	Algorithms
IN4173	SQL II (Oracle)
IN4194	Systems Design

For program information:

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Graphic Design - Electronic Design and Publishing

Length	2 Semesters
Location(s)	(KL) Kirkland Lake
Code(s)	NORT-T072 – KL

Program of Studies

Semester I

CM1903-A	Communications I
IN1073	Digital Imaging
IN1083	Graphics Applications I
IN1193	Drawing I
IN1323	Introduction to MAC
IN3173	Web Design I

Semester II

CM2903-A	Communications II
IN2065	Audio & Video Production
IN2093	Graphics Applications II
IN2324	Introduction to Typography
IN2193	Drawing II
IN4044	Web Design II



This program is an introduction to the study and creation of multimedia - text, vector and bitmap graphics, image manipulation, animation, video, and sound - using a variety of software tools. Students will learn both the aesthetic and technical aspects of multimedia design and production. Development, production, presentation, and the business behind these processes are thoroughly explored for both print and electronic media.

Working individually as well as part of a team, students will produce both printable and digital materials, including CD, DVD, video and web-based media. Students will use software programs such as CorelDraw, Corel Photo-Paint, Corel Rave, Macromedia Flash, Adobe Photoshop, Adobe Illustrator and other video production authoring tools.

Upon successful completion of this certificate program, graduates may be accepted into the second year of Canadore College's three-year graphic design program.

Admission Requirements

Ontario Secondary School Diploma (OSSD)
Grade 12 English (C, M, U)

Or equivalent.

Or mature student status (an applicant who does not have a high school diploma or equivalent, and will have reached the age of 19 years on or before the start of the program). Mature students must undergo academic testing prior to admission into a program. Call the Admissions Office at 705-235-7222 for more details.

Note: Academic prerequisites for this program may be obtained free of charge through Academic Upgrading. Refer to the Post-Secondary Preparation section in this calendar for more details.

For program information:

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Microcomputer Support Services



Length	2 Semesters
Location(s)	(KL) Kirkland Lake
Code(s)	NORT-T095 KL

Program of Studies

Semester I

CM1903-A	Communications I
IN1014	Computer Fundamentals
IN1035	Networks I
IN1174	Operating Systems I
IN2134	Computer Operations

Semester II

CM2903-A	Communications II
IN2005	Hardware Fundamentals
IN2035	Networks II
IN2094	Software Support
IN2184	Operating Systems II

Learning to install microcomputers and support both the hardware and software can lead to a great and rewarding career as a computer technician.

This two-semester certificate program is designed to give students the necessary skills to work with, and repair computers. They will learn the basics of computer hardware and software including installation and maintenance of computer operating systems.

Computer technicians are in great demand. Small and large businesses, as well as industry use computer systems in their daily activities. All of them need some degree of computer support for both hardware and software installation, development and maintenance. Computer technicians' functions could include conducting needs assessments, installing and maintaining computer hardware, installing and maintaining software applications, and training others. All computer skills are portable and there is great potential for career advancement.

Employment Opportunities

Graduates of this program can look towards employment as computer technicians, junior programmers, computer sales representatives, network technicians, applications specialists and computer software consultants.

Admission Requirements

Ontario Secondary School Diploma (OSSD)
Grade 12 English (C, M, U)

Or equivalent.

Or mature student status (an applicant who does not have a high school diploma or equivalent, and will have reached the age of 19 years on or before the start of the program). Mature students must undergo academic testing prior to admission into a program. Call the Admissions Office at 705-235-7222 for more details.

Note: Academic prerequisites for this program may be obtained free of charge through Academic Upgrading. Refer to the Post-Secondary Preparation section in this calendar for more details.

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