McGill | School of Continuing Studies

SHAPE YOUR *nation's future*

Undergraduate Certificate in Computers and Information Technology

In collaboration with

Cree First Nation of WASWANIPI

McGill University comes to you – online, at times that fit your schedule. The Undergraduate Certificate in Computers and Information Technology offers interactive learning that is adapted to the realities of daily life. You will learn about computer information systems, and application development, focusing on competencies that are in high demand across Northern Canada.

A FEW WORDS FROM THE TEAM

We proudly continue our tradition of high-quality, accessible, innovative, market-responsive education. We're committed to delivering rich academic and practical programs that will help you to gain momentum in your career.

We would like to thank Indigenous and Northern Affairs Canada for supporting and funding this initiative.

We invite you to discover the McGill experience.

Technology gives us a way to pass along knowledge like never before. It opens the door to new opportunities and new ways of working, to help our communities, connect, prosper, and grow.

Learn new skills in computers and information technology

The goal of the online Undergraduate Certificate in Computers and Information Technology is to enrich the lives of **First Nations, Inuit and Métis Peoples and their communities**. With this education, you can help shape your Nation's future.

Information technology is a key enabler of development in Northern Canada. Organizations large and small are in need of qualified information technology staff that have the competencies needed to develop and maintain the systems required to support all sectors of the community. You will learn about the nature of computer systems, the tools and techniques needed to operate and maintain these systems and networks, and the design and development of applications across the various platforms.

Not lost in translation

Course content will be tailored specifically to the needs of Northern Indigenous communities.

Such as:

→ Guest lecturers from the North.

→ Instructors work closely with your community to develop course materials.

→ Case studies and business practices from local mining or resource industries, banks and other institutions – from both Northern and Southern Canada.

Teaching and learning approach

Our teaching and learning philosophy is to adopt a learner-centred approach.

→ We believe that learning occurs when participants get opportunities to experience learning through the four phases of the learning cycle:

- applying the concepts learned in the class to the work environment
- reflecting on and analyzing experiences
- formulating one's own conclusions about the relationships between concepts and application
- planning for effective actions in similar situations

→ We focus on competency development.

→ We believe that education is only useful and beneficial to the individual and the organization if it translates into change and observable behaviours.

→ We make the theory relevant to the context by engaging the learner and relating it to their own experience and personal context.

Earn a McGill education in computers and information technology from the comfort of your community. No travel necessary. No extra living expenses to pay.

Write the next chapter for generations to come.

Support

Local support for these courses come from McGill University and your community.

- **A LOCAL NORTHERN COORDINATOR** will work closely with McGill University to oversee course administration. The Local Coordinator will collect your application forms, registration forms, and supporting documents to send to McGill.
- **TECHNICAL SUPPORT** is available for both students and course lecturers during classes.
- **A TUTOR** is available to help students with any course content that they may find difficult.
- **FIRST PEOPLES' HOUSE** at McGill University supports Indigenous students. An Indigenous Outreach Administrator can help you find the academic support and resources that you need to succeed both on campus and online.
- **A DEDICATED ADVISOR** at the School of Continuing Studies available to meet with students online to discuss all aspects of their education.

Course delivery

- With the support of INSERTECH, McGill has provided a limited number of computers that may be used by students in this program. Online courses in Computers and Information Technology are offered in the evenings (6 p.m.–9 p.m.) over a 13-week period. In a more intensive 7-week period, there are an additional 2 or 3 full-day Saturday sessions.
- Courses in Computers and Information Technology are available for groups of up to 35 people.

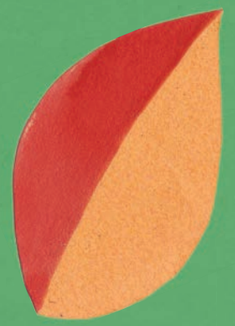
Funding

Band Councils, local economic development offices, communities and governments may be able to assist with local resources, such as computers and classrooms. When all of the courses have been successfully completed, the time to celebrate arrives!

Talk to your local Band Council or Nation government about access to educational subsidies, repayable loans and other financial support for educational programs.

Graduation

- Attend convocation and receive your Undergraduate Certificate on stage with your community.
- Share your success with your friends and family at the First Peoples' House Convocation Dinner.
- Receive your specially-designed scarf in recognition of your achievements at the scarf ceremony.



About the Undergraduate Certificate in Computers and Information Technology

The Certificate in Computers and Information Technology is a 30 credit undergraduate level program consisting of 10 interactive online courses. Each 3 credit course is divided into modules, delivered consecutively and specifically designed to ease demands on your schedule.

These courses will provide you with a foundation in the concepts and techniques required for effective planning, design, and development of software applications and systems, applied computer knowledge in networking, and internet technologies. With this knowledge, you may assume entry-level positions in the field of information technology, technical support, internet and web specialism, computer support consulting and help desk analysis.

COURSE DESCRIPTIONS

→ CCCS 280
Introduction to Computer Information Systems

An introduction to understanding the role of computer information systems in modern society, work practices, reshaping organizations, and transforming cultures. Topics include: current trends in information systems, decision support systems, social media, business process improvements and competitive advantage, database technology, e-business and the digital economy, knowledge management, telecommunications and networking.

→ CCCS 300
Programming Techniques 1

Pre-requisite: CCCS 280 Introduction to Computer Information Systems

Fundamental programming techniques, concepts, and data structures, including modularization and maintainability. Emphasis on facilitating communication and understanding between systems analysts and programmers to support decision-making.

→ CCCS 315
Data Structures and Algorithms

Pre-requisite: CCCS 300 Programming Techniques 1

Programming techniques used to implement algorithms on computers with an object oriented programming language through the careful design of data structures which support the efficient manipulation of data.

→ CCCS 321
Operating Systems Administration

Pre-requisite: CCCS 280 Introduction to Computer Information Systems

Operating systems such as Windows, LINUX and UNIX environments, administration of computer servers, use of script languages in various operating systems, back-up procedures and remote access, communication protocol used among different systems, managing information, and system security.

→ CCCS 325
Mobile Application Development

Pre-requisite: CCCS 300 Programming Techniques 1

Examines the limitations and technical challenges of current mobile devices and wireless communication by using up-to-date software development tools and application programming interfaces. Develop small realistic applications for mobile devices by using a standard software development environment.

→ CCCS 330
Database Design and Business App Development

Pre-requisite: CCCS 300 Programming Techniques 1

Design and implement applications that make use of different database management systems. Simple and complex Structured Query Language (SQL) used in manipulation of information, data design, querying, and programming. Connectivity to different databases through programming languages to implement web applications.

→ CCCS 431
Networking Fundamentals

Pre-requisite: CCCS 321 Operating Systems Administration

Fundamental concepts and practices of network principles, technical and managerial aspects of data communications, overview of local area and wide area networks, network topology, network protocols, internet/intranet, client/server-communication and file sharing.

→ CMIS 422
Information Systems Security

Pre-requisite: CCCS 280 Introduction to Computer Information Systems

Fundamental concepts relating to the design of secure information systems, identification and assessment of security risks at the application, network and physical levels. Use of cryptography and other techniques to provide necessary level of security.

→ CCCS 310
Web Development

Pre-requisite: CCCS 300 Programming Techniques 1

Development of web sites and web-based application using page markup, style sheets and client-side scripting. Emphasis will be placed on developing pages that support current standards and accessibility requirements, as well as multimedia, cross-platform development and site deployment.

→ CCCS 425
Web Services

Pre-requisite: CCCS 300 Programming Techniques 1

Design, implementation and deployment of web services based solutions to solve common problems in the distributed application domain.

2016 - 2017 SCHEDULE

COURSE NUMBER AND TITLE	SEMESTER	START DATE	END DATE	DAY/TIME
→ **CCCS 280** Introduction to Computer Information Systems	Fall 2016	Sept. 12, 2016	Oct. 31, 2016	Monday 6:00-9:00PM Saturday (x2) 9:00-5:00PM
→ **CCCS 325** Mobile Application Development	Fall 2016	Sept. 14, 2016	Dec. 14, 2016	Wednesday 6:00-9:00PM
→ **CCCS 300** Programming Techniques 1	Fall 2016	Nov. 7, 2016	Dec. 19, 2016	Monday 6:00-9:00PM Saturday (x3) 9:00-5:00PM
→ **CCCS 330** Database Design and Business Application Development	Winter 2017	Jan. 11, 2017	Apr. 12 , 2017	Wednesday 6:00-9:00PM

Admission Requirements

The courses are aimed at First Nations, Inuit and Métis Peoples where:

→ Applicants 21 years of age and older may be admitted as mature participants

OR

→ Applicants must hold a CEGEP diploma (DCS, DEC or equivalent)

What documents do I send?

McGill School of Continuing Studies will provide the following forms for you to complete and send:

→ Your application form* (to be completed once)

→ Your permanent code data form* (to be completed once)

→ Your registration form* (to be completed every time you register into a course)

Please also submit:

→ A one-page letter of intent telling us why you would like to enroll in this program

→ Two pieces of valid ID from the following:

1. A copy of your **Indian Status Card** (front and back)
2. A copy of your **Quebec Birth Certificate**
3. A copy of your Driving License (front and back) **OR** Quebec Medicare (RAMQ) card (front and back)

* The Coordinator will assist participants in completing the documents.

Who should I contact?

Career and Professional Development

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LEARN. CONNECT. GROW.

McGill School of Continuing Studies

INSERTECH

Gouvernement du Canada / Government of Canada

INDIGENOUS AND NORTHERN AFFAIRS CANADA