



McGill

School of
Continuing Studies

SHAPE
YOUR
*Nation's
future*



**Undergraduate
Certificate in
Computers and
Information
Technology**

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 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.



Why should I study Computers and Information Technology?

Information technology is a key enabler of development in Canada. Organizations large and small are in need of specialists with key competencies required to develop and maintain the systems supporting all sectors of the community.

In this program 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. Work from anywhere in the world in a field that is constantly evolving. Use your creativity to solve problems and plan projects. Work solo or in collaboration with a team.

Embrace the opportunity, and embark on a learning journey with us.

What can I do with a certificate in Computers and Information Technology?

Graduates can become:

- Technical support specialists
- Help desk technicians
- Network administrators
- Programmers
- Web Developers

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 contextual by engaging the learner through their own experience.

Support

A DEDICATED ADVISOR at the School of Continuing Studies available to meet with students online to discuss all aspects of their education.

TECHNICAL SUPPORT is available for both students and course lecturers during classes.

FIRST PEOPLES' HOUSE at McGill University supports Indigenous students.

Earn a McGill education in Computers and Information Technology from the comfort of your home. No travel necessary. No extra living expenses to pay.

“Jobs in IT are the link between Business and Computer Technology. Learning information technology allows you to work in any industry!”



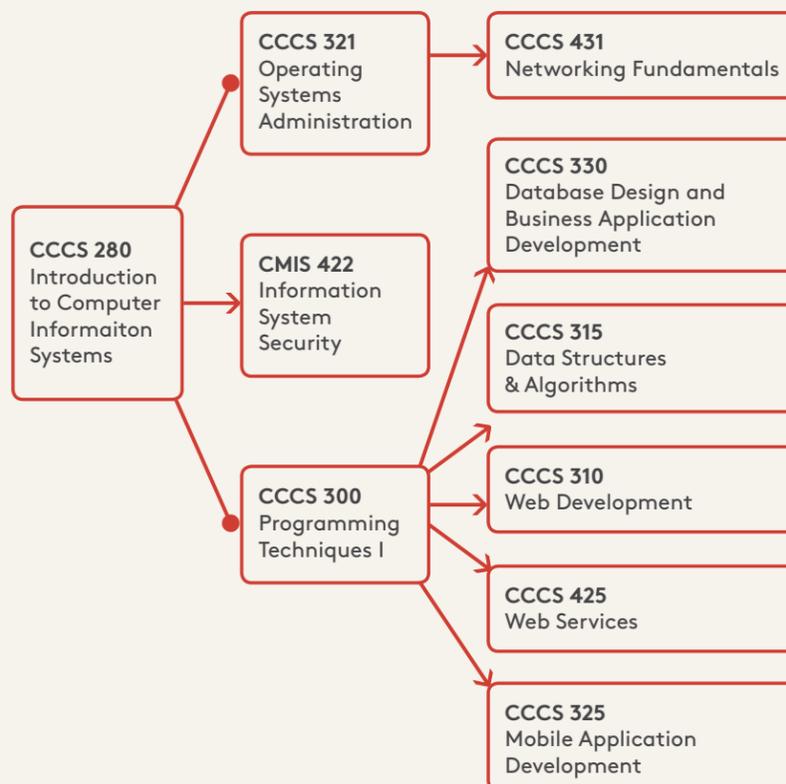
What prior knowledge of computers do I need before I begin?

Our program offers a broad overview of Computers and Information technology, and is meant to introduce participants to the landscape of the field. No prior knowledge is necessary, although it's helpful to have a basic understanding of computing.

Course Sequence

Classes are offered part-time, in the evening, once or twice per week following the sequence provided. Examine our chart for details on pre and co-requisite classes.

- Prerequisite for courses
- Co-requisite for courses



Course delivery

- Online courses in Computers and Information Technology are offered in the evenings (6 pm – 9 pm).
- During fall, winter and summer, classes meet once or twice a week for 7-13 weeks.
- Students log in online to see, hear and interact with course lecturers and fellow students face-to-face.
- Learners engage, learn and connect through interactive activities and collaborative teamwork.

Graduation

- When all of the courses have been successfully completed, the time to celebrate arrives!
- A Convocation ceremony for graduating students of the School of Continuing Studies is held twice a year: in the Spring and the Fall
- Attend convocation and receive your Undergraduate Certificate on stage in your McGill cap and gown as friends and family celebrate your achievement!

Funding Resources

McGill University

- <https://www.mcgill.ca/continuingstudies/current-students/fees/student-awards-and-financial-aid>
- McGill scholarships and bursaries

Scholarships Canada

- <http://www.scholarshipscanada.com/>
- A website that you can sign up to receive notifications of funding that you may be eligible for

Quebec Government

- <http://www.afe.gouv.qc.ca/en/all-publications/detail/student-financial-assistance/>
- <http://www.afe.gouv.qc.ca/en/loanspart-time-studies/loanprogram/>
- Loans available for part time students



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 specialization, 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

Prerequisite: 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

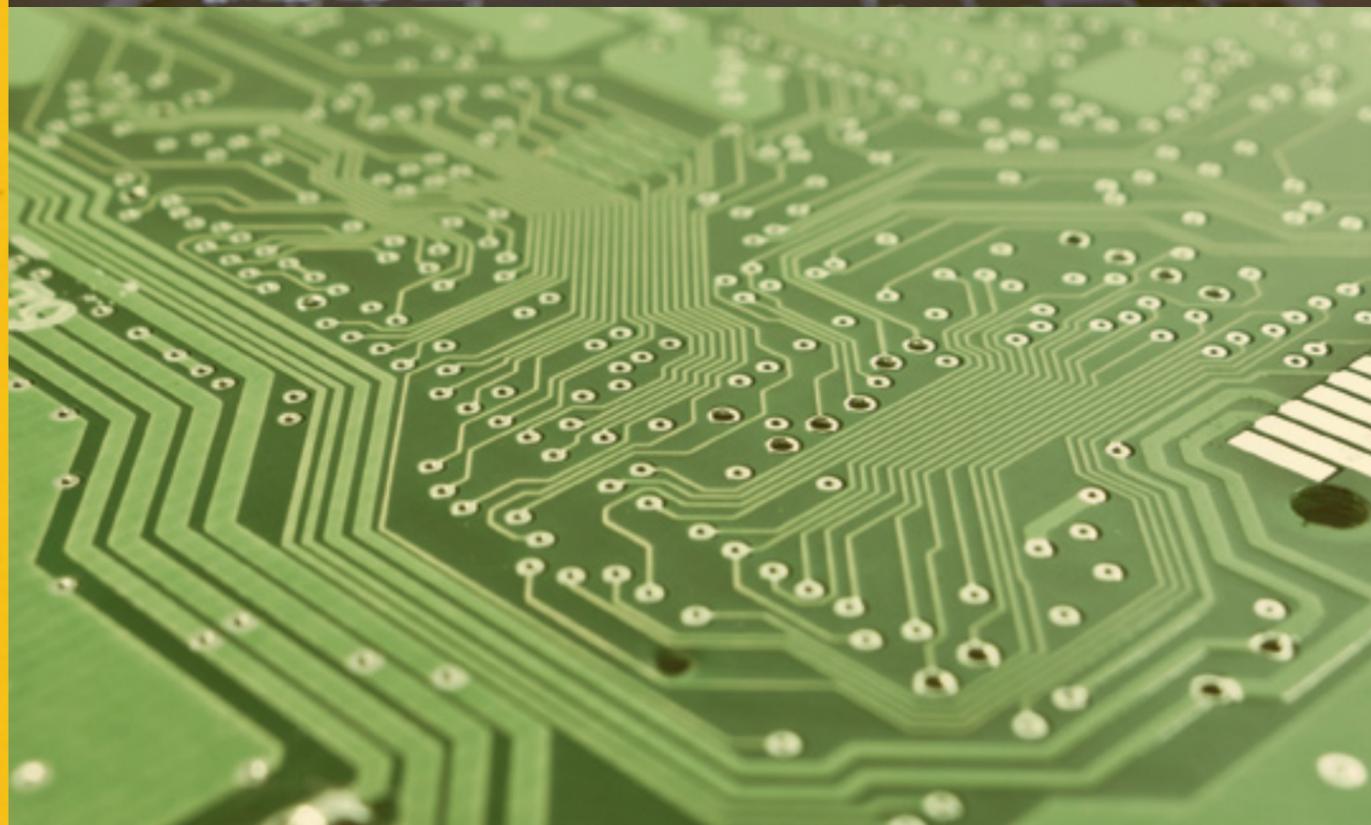
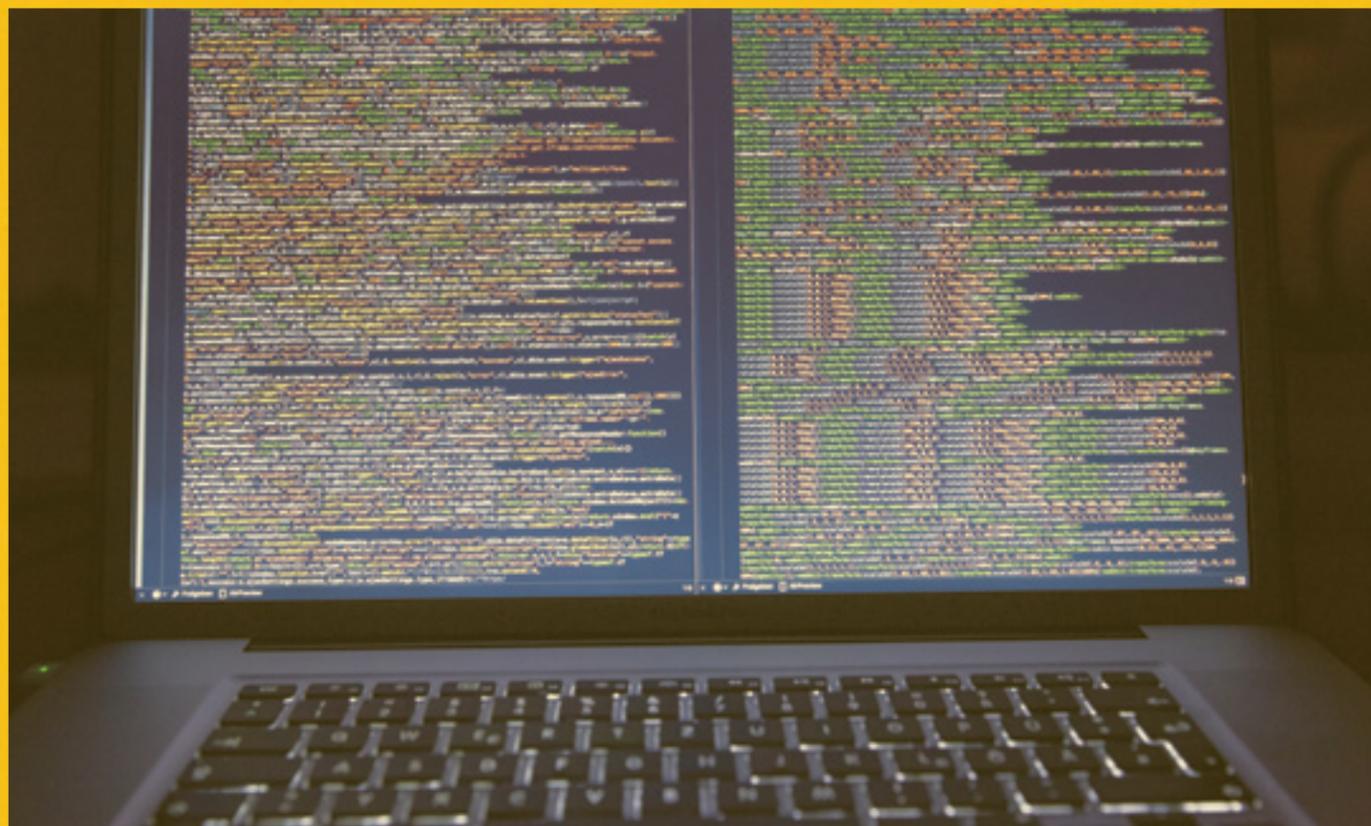
Development of web sites and web-based application using page markup, style sheets and client-side scripting. Emphasis will be placed on developing pages that support current standards and accessibility requirements, as well as multimedia, cross-platform development and site deployment.

→ 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.



Who can answer my questions?

If you have questions, we want to help! Our administrative coordinator is available Mondays to Fridays from 9am-5pm to help you with your application, or find answers to your questions. Busy during the day? Just send us an email, and we'll answer as soon as we can!

McGill University School of Continuing Studies
Career and Professional Development (Credit Programs)
688 Sherbrooke St. West, Suite 1140
Montreal, Quebec
H3A 3R1

Tel: 514-398-5055
Fax: 514-398-3108
Email: cpdonline.scs@mcgill.ca

Admission Requirements

→ 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 University 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 **Canadian birth certificate OR proof of Canadian citizenship OR permanent residency**
 2. A copy of your **Canadian health card OR of your driving license (front and back)**
 3. A copy of your **Indian status card or Makivik society card (front and back)**

* The Coordinator will assist participants in completing the documents.

* High School transcripts may be required to prove English proficiency.

[mcgill.ca/
continuingstudies](http://mcgill.ca/continuingstudies)