

Champlain Regional College - Saint-Lambert

AEC – LEAEC IT CLOUD ADMINISTRATION



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IT CLOUD ADMINISTRATION AEC

1 - PROGRAM OBJECTIVE

The goal of this program, which is aligned with the expected job functions, is to train students to perform cloud administration/support. Students will be able to perform installation, configuration and administration of Microsoft and Linux client/server technologies as well as cloud-based implementations for medium-size networks utilizing cloud platforms from Google, Amazon, and Microsoft.

Additionally, by providing students with the appropriate training, the program also aims at preparing graduates to successfully complete selected industry-recognized Amazon Web Services, Google Cloud Platform and Microsoft Azure certifications

2 - CAREER OUTLOOK

This AEC is aimed at those seeking to work in a mixed Microsoft Windows and Linux environments to provide technical assistance on these platforms as well as cloud-based systems and platforms. Graduates from this AEC will find employment working directly in companies currently using cloud computing and hybrid models. Graduates may also work for companies that specialize in cloud computing consulting and networks, utilizing the cloud platforms from Google, Amazon, and Microsoft. Among the positions the program will provide the skills to fill are:

- Cloud Administration
- Support Technician
- Cloud Network Specialist
- Cloud Consultant

Employment potential (2019 to 2023) throughout all regions of Quebec (Emploi Quebec, Job # NOC 2281) is considered excellent with a median annual salary of \$58,000. It is important to note that in the Montreal region Amazon, Microsoft and Google all have datacenters with tremendous growth and a shortage of trained personnel.

3 - ADMISSION REQUIREMENTS

General Requirements

To be admissible for this AEC program, applicants must meet the eligibility requirements in effect at the time as set forth in Article 4 of the College Education Regulations (RREC). In particular, applicants must have received instruction deemed sufficient by the College and meet at least one of the following conditions:

- He or she has interrupted his or her full-time studies or has pursued full-time postsecondary studies for at least two consecutive sessions or one school year;
- He or she is covered by an agreement between the college and an employer, or benefits from a government program;
- He or she has interrupted full-time studies for one session and has pursued full-time post-secondary studies for one session or one semester;
- He or she holds a Secondary School Vocational Diploma (DEP).

Specific Requirements

In addition to meeting the general admission requirements outlined above, applicants must meet the following specific requirements.

- (1) Basic computer usage including file structure and knowledge of basic troubleshooting of an operating system.
- (2) Applicants will be asked to submit their curriculum vitae (CV) and may be interviewed and given an entrance exam in computer fundamentals prior to admission to the program to verify their qualifications.
- (3) Potential candidates may be required to take an appropriate remedial course(s).
- (4) Students must also have attained a certain level of mastery of the English language, in order to be able to deal with the course materials.
- (5) Students French language skills will also be assessed prior to starting to ensure their capacity to work in French.

NOTE: If you are unsure about your eligibility for the program and whether or not you fit one of these profiles, please contact the Pedagogical Counsellor by submitting your CV before applying on https://www.champlainsaintlambert.ca/all-programs/

Selection Criteria

To be selected, the person may have to:

- Go through a selection interview;
- Complete a qualification test;
- Take an English or French entrance exam;
- Provide a document demonstrating that they have never been convicted of an offence under the Canadian Criminal Code for which a pardon has not been obtained.

Conditions for obtaining the Attestation of Collegial Studies (AEC): All students enrolled in a program leading to the Attestation of Collegial Studies (AEC) must have successfully completed all courses in the program in order to obtain the attestation.

4 - GENERAL INFORMATION

Duration: 12 months / 3 semesters

Mode of Delivery: Hybrid

Courses are offered on: Monday to Friday:

- Mondays and Wednesdays from 9:00 AM to 4:00 PM
- Tuesdays and Thursdays from 1:00 PM to 6:00 PM
- Fridays from 9:00 AM to 12:00 PM

** Schedule subject to change**

5 - PROGRAM CONTENT AND RULES

This program leads to an Attestation of College Studies (AEC) in IT Cloud Administration.

The IT Cloud Administration Program consists of:

- 12 courses and;
- 14 competencies;
- for a total of **1185 hours** and **34.66** units.

To progress in the program, each course must be passed successfully.

Please note that by withdrawing from a course(s) or failing a course(s) within your AEC program, it may make it difficult or impossible for you to continue with your program at that time. It may delay you in the completion of your program, or it may hinder your opportunity to complete the program as the College cannot guarantee that the program will continue to be offered in the future.

NB: Students are expected to attend class sessions and all scheduled examinations following the date upon which they register for the course.

6 - FEES

Please refer to the Continuing Education website for the most up-to-date information on program costs and additional fees: <u>https://champlainsaintlambert.ca/continuing-education-costs/</u>

7 - COURSE DESCRIPTIONS

The following provides a brief description of the courses in the program.

COURSE	DESCRIPTION
Network Fundamentals	T
420-750-LA2-3-275 HOURSCompetency:00Q5,Elements ALLPre-requisite:None	This course introduces the students to the fundamentals of networking. The course will cover the OSI model for understanding the functioning of a network. Students will be introduced to the key components on a typical network. An introduction to the configuration and building of a typical local network will be covered from a practical perspective. Students will complete basic router and switch configurations as well as install virtual machines of various Microsoft Windows and Linux client operating systems.
Windows Desktops420-751-LA2-2-260 HOURSCompetency: Competency: BK30Elements ALLPre-requisite:None	This course introduces the students to the installation and configuration of Microsoft Windows Desktops. Typical company deployment technologies will be covered as well as connecting desktops to Active Directory servers.
Windows Servers I420-752-LA2-2-260 HOURSCompetency:BK32Elements 1, 2Prerequisite:None	This course introduces students to Microsoft Windows Server installation and configuration. Students will use graphical tools as well as PowerShell to configure Active Directory services in a typical company.
Windows Servers II 420-762-LA 2-2-2 60 HOURS Competency: BK32 elements 3, 4, 5, 6 Pre-requisite: 420-752-LA	This course looks at the typical configuration of various services on a Microsoft Windows Server, including: Active Directory, DNS, and DHCP. This course will also cover group policies, as well as patch management of servers and clients.
Linux Administration I420-753-LA2-3-275 HOURSCompetency:BK33Elements:ALLPrerequisite:420-750-LA	This course is an introduction to the installation, configuration, and administration of a Linux server. Students will learn the various commands utilized in Linux as well as the graphical tools available.
Virtualization Technologies420-754-LA2-3-275 HOURSCompetency:00SHElements ALLPrerequisite:420-750-LA 420-752-LA	This course describes the various virtualization technologies used in building a data center. Students will cover the installation and configuration of Microsoft Hyper-V, and VMware vSphere ESXi Servers. In addition, students will be introduced to the various cloud solutions such as Amazon Web Services, Google Cloud Platform, and Microsoft Azure.
Amazon Web Services Fundamentals	This course is based on the AWS Academy Cloud Foundations course. It provides a detailed overview of

420-755-LA 2-3-2 75 HOURS Competency: BK34 Elements 1, 2, 3 Proroquicite: 420-754 LA	cloud concepts, AWS core services, security, architecture, pricing, and support. In addition, students will cover theory and practical training to help prepare for the following certifications: AWS Certified Cloud Practitioner
Prerequisite: 420-754-LA	AWS Solutions Architect Associate
Microsoft Azure Fundamentals 420-756-LA 2-3-2 75 HOURS Competency: BK35 Elements: ALL Prerequisite: 420-754-LA	This course will provide knowledge of cloud services and how those services are provided with Microsoft Azure. The course will cover cloud concepts, Azure services, Azure workloads, security, and privacy in Azure, as well as Azure pricing and support. Students will be introduced to implementing, managing, and monitoring identity, governance, storage, compute, and virtual networks in a cloud environment, plus provision, size, monitor, and adjust resources, when needed. Students completing this course will be prepared for the following certification: Microsoft Certified: Azure Administration– Associate
	Exam AZ-104
Linux Administration II 420-763-LA 2-2-2 60 HOURS Competency: BK33 Elements ALL Prerequisite: 420-753-LA	This course will cover the various services that can be implemented on a Linux server. Students will configure a Linux server with the following services: DNS, Apache, Nginx, sendmail, Postfix, Dovecot, DHCP, samba, LAMP, LEMP, nfs, and Firewall Services.
Google Cloud Platform	This course will cover theory and practical knowledge
Competency: BK36 Elements: ALL Competency: 0Q81 Elements: ALL Prerequisite: 420-763-LA	of the Google Cloud Platform. Students will cover the basics of cloud technology after which they will learn to plan and deploy applications, monitor operations, and manage enterprise solutions. In addition, they will configure access and security for the solutions. The use of Google Cloud Console and the command-line interface to perform common platform-based tasks to maintain one or more deployed solutions will also be covered. Students completing this course will be prepared for the following certification: Google Associate Cloud Engineer (ACE)

Amazon Web Services FundamentalsII420-765-LA2-2-260 HOURSCompetency: BK38 Elements ALLCompetency: BK34 Elements 3, 4, 5, 6Prerequisite: 420-755-LA	This course will cover the implementation of distributed AWS Cloud Solutions. Students will design, build, deploy, and maintain business applications and critical infrastructure inside the AWS Cloud. In addition, solutions will include the migration of existing network infrastructure to the cloud. Students completing this course will be prepared for the following certification: Associated Certification - AWS Solutions Architect Associate
Internship 420-758-LA 1-27-2 420 HOURS	This course will provide students with the opportunity
Competency: 00SG Elements: ALL Competency: 00SE Elements: ALL Competency: 00Q8 Elements: ALL Prerequisites: ALL Courses:	to be placed within a company to gain hands on experience in the IT field. Students will be able to obtain experience in one or more of the areas covered in the program providing technical support. In addition, students will gain the necessary knowledge and skills to establish professional relationships with users and
Network Fundamentals (420-750-LA) Windows Desktops (420-751-LA) Windows Server I (420-752-LA) Windows Server II (420-762-LA) Linux Administration I (420-753-LA) Virtualization Technologies (420-754-LA) Linux Administration II (420-763-LA) Amazon Web Services I (420-755-LA) Microsoft Azure Fundamentals (420-756-LA) Amazon Web Services II (420-765-LA) Google Cloud Platform (420-757-LA)	clients. Students completing this course will also be prepared to work within multidisciplinary teams and they will become familiar with the legal obligations and rules of professional ethics.

8. COURSE SEQUENCE

