

Linux Operating Systems I

Information and Communications Technology

Course Number: CST8207	Co-Requisites: N/A	Pre-Requisites: N/A
Applicable Program(s): Multiple Programs	AAL: Multiple Levels	Core/Elective: Multiple Core/Elective
Prepared by:	Ian Allen, Professor	
Approved by:	Andrew Pridham, Academic Chair, ICT	
Approval Date:	Tuesday, August 12, 2014	
Approved for Academic Year:	2014-2015	
Normative Hours:	75.00	

Course Description

Students learn the basic concepts and core functions of the Linux operating system in a stand-alone environment. Students also learn basic command structures and capabilities of the Linux operating system, along with the skills required to perform common basic system configuration and management tasks. Typical tasks covered include, but are not limited to installing the operating system, working the command line shell, managing/mounting/creating file systems, file permissions overview, managing and troubleshooting the boot process, task automation, software management and customizing the operating system environment.

Relationship to Vocational Learning Outcomes

This course contributes to your program by helping you achieve the following Vocational Learning Outcomes:

0150X01FWO - Computer Systems Technician	
VLO 1	Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools (T,A)
VLO 2	Support the implementation and administration of computer systems. (T,A)
VLO 4	Install, configure, troubleshoot, maintain, and upgrade components of computer systems. (T,A)
VLO 7	Follow, monitor, and document data storage procedures designed to ensure the integrity of information. (T,A)
VLO 10	Conform to workplace expectations found in information technology (IT) environments. (T,A)
VLO 12	Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship. (T,A)
0150X03FWO - Computer Systems Technician	
VLO 1	Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools. (T,A)
VLO 2	Support the implementation and administration of computer systems. (T,A)
VLO 4	Install, configure, troubleshoot, maintain, and upgrade components of computer systems. (T,A)
VLO 7	Follow, monitor, and document data storage procedures designed to ensure the integrity of information. (T,A)
VLO 10	Conform to workplace expectations found in information technology (IT) environments. (T,A)

VLO 12 Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship. (T,A)

0155X01FWO - Computer Systems Technology - Networking

VLO 1 Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools. (T,A)

VLO 2 Analyze, plan, design, and implement computer systems. (T,A)

VLO 4 Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize computer systems. (T,A)

VLO 8 Plan, develop, and be responsible for data storage to ensure the integrity of information. (T,A)

VLO 12 Articulate, defend, and conform to workplace expectations found in information technology (IT) environments. (T,A)

VLO 14 Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship. (T,A)

0156X01FWO - Computer Systems Technology - Security

VLO 1 Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools. (T,A)

VLO 2 Analyze, plan, design, and implement computer systems. (T,A)

VLO 4 Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize computer systems. (T,A)

VLO 8 Plan, develop, and be responsible for data storage to ensure the integrity of information. (T,A)

VLO 12 Articulate, defend, and conform to workplace expectations found in information technology (IT) environments. (T,A)

VLO 16 Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship. (T,A)

1190X01FWO - Wireless/Mobility Telecom. Eng. Tech.

VLO 3 Configure and troubleshoot firmware, appropriate microprocessor-based embedded hardware and FPGAs, radio modules and digital signal processing hardware. (T,A)

VLO 4 Maintain network operations and management systems to be used with wireless and wired communication systems. (T,A)

1190X03FWO - Wireless/Mobility Telecom. Eng. Tech.

VLO 3 Configure and troubleshoot firmware, appropriate microprocessor-based embedded hardware and FPGAs, radio modules and digital signal processing hardware. (T,A)

VLO 4 Maintain network operations and management systems to be used with wireless and wired communication systems. (T,A)

1191X01FWO - Wireless/Mobility Telecom. Eng. Ty.

VLO 4 Program, analyze, and troubleshoot appropriate microprocessor-based embedded hardware and, FPGAs, radio modules and digital signal processing hardware. (T,A)

VLO 5 Configure network operations and management systems to be used with wireless and wired communication systems. (T,A)

1191X03FWO - Wireless/Mobility Telecom. Eng. Ty.

VLO 4 Program, analyze, and troubleshoot appropriate microprocessor-based embedded hardware and, FPGAs, radio modules and digital signal processing hardware. (T,A)

VLO 5 Configure network operations and management systems to be used with wireless and wired communication systems. (T,A)

Relationship to Essential Employability Skills

This course contributes to your program by helping you achieve the following Essential Employability Skills:

EES 2	Respond to written, spoken or visual messages in a manner that ensures effective communication. (T,A)
EES 4	Apply a systematic approach to solve problems. (T,A)
EES 5	Use a variety of thinking skills to anticipate and solve problems. (T,A)
EES 6	Locate, select, organize and document information using appropriate technology and information systems. (T,A)
EES 7	Analyze, evaluate and apply relevant information from a variety of sources. (T,A)
EES 11	Take responsibility for one's own actions, decisions and consequences. (A)

Course Learning Requirements/Embedded Knowledge and Skills

Course Learning Requirements	Embedded Knowledge and Skills
When you have earned credit for this course, you will have demonstrated the ability to:	
1.) Use a system remotely over a network.	<ul style="list-style-type: none"> -Use remote terminal programs to connect securely to remote systems. -Use file transfer programs to move files between systems.
2.) Use GNU/Linux command-line (shell) commands to perform systems administration tasks.	<ul style="list-style-type: none"> -Use command-line I/O redirection, including pipes. Avoid overwriting files. -Identify the steps involved in parsing the GNU/Linux command line (shell). -Use on-line manual ("man") pages to learn the syntax of commands. Write correct command lines based on documentation. -Learn basic vi (vim) editing commands that can create and edit configuration files. -Manipulate files and directories using both absolute and relative pathnames.
3.) Install and configure GNU/Linux.	<ul style="list-style-type: none"> -Attach installation media and use it to install and configure a GNU/Linux operating system. -Follow correct shut-down procedures for a GNU/Linux system (to prevent data loss).
4.) Identify, create, and manage different types of partitions and file systems under GNU/Linux.	<ul style="list-style-type: none"> -Identify, create, and modify file systems within GNU/Linux, with emphasis on ext2/ext3/ext4 and FAT file systems. -Identify the basic data structures that make up a GNU/Linux file system. Know how these structures affect file system recovery and enable hard and soft links. -Identify, create, and modify partitions within GNU/Linux. -Use absolute and relative path names correctly.

5.) Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment	-Create and modify file and directory access control permissions to implement specified security and sharing. -Create and manage user and group accounts in the GNU/Linux environment.
6.) Manage the boot process under GNU/Linux.	-Modify the GNU/Linux boot/startup process. Adjust time-outs; enable single-user mode; modify or add new boot menu entries.
7.) Download, install, and configure software in a GNU/Linux-based environment.	-Use GNU/Linux software package manager to query software packages, find new packages, install packages, and remove packages. -Use command-line and legacy package tools to install software outside of the regular package management tools.

Learning Resources

Laptop Required for Lectures and Labs

This course is part of the Bring Your Own Device (BYOD) program initiative at Algonquin College. Students are required to have a functioning mobile device (e.g. a laptop) at all lecture and lab classes, including the first. The specifications for the required laptop and additional information about the BYOD program initiative can be found at <http://www.algonquincollege.com/byod/>Your disk must have (at least) 50GB of free space for CST8207 (mostly used for virtual machines and their backup copies).An external disk and enclosure are already purchased for you with your incidental fees. This disk is useful for back-ups but is not required as part of the course.You can get the CST hardware kit from the Algonquin New Technology Store by showing your timetable and ID card. This disk is useful for back-ups but is not required as part of the course.

Web (Internet) Notes

Learning Management System Policy AA42 <http://www3.algonquincollege.com/directives/policy/aa42-learning-management-system/> outlines the requirements for professors in posting class notes or information via the Blackboard learning management system (LMS). Any such information made available by professors is done solely to assist students in understanding the material presented and is not intended to replace attendance or personal note-taking at classes and labs.

Optional Textbooks (not required)

No textbooks are required for this course. The textbooks below are optional, reliable, comprehensive sources of accurate GNU/Linux information. Motivated students may choose instead to discover and use free Internet resources instead of a purchased textbook.

Optional: The bookstore may sell a CST8207 Textbook Package (ISBN: 0-132-37382-3) that contains:A Practical Guide to Fedora and Red Hat Enterprise Linux, by Mark Sobell, Prentice Hall ISBN 0-13-706088-2Linux Phrasebook, by Scott Granneman, Prentice Hall ISBN 0-672-32838-0N.B.: This optional two-book textbook package deal is ONLY available in the Algonquin Bookstore. All these books are optional. They are not required.

Optional: Linux Administration Handbook , by Evi Nemeth et al, Prentice Hall, ISBN 0-13-148004-9Optional: Linux Administration, A Beginner's Guide, by Wale Soyinka, McGraw Hill, ISBN 9780071545884Optional: Linux in a Nutshell, Jessica Perry Hekman, O'Reilly, ISBN 0-596-00930-5No textbooks are required for this course. Motivated students may choose instead to discover and use free Internet resources instead of a purchased textbook.

Learning Activities

Reading, Hearing, and Doing

The principal way to learn the course material is by reading the course material using the provided Internet

resources, attending lectures to review the highlights of the material and ask questions, and then doing lab and homework exercises related to the material. Course topics will be outlined in the course notes.

Lectures

Lectures will present highlights from the theoretical material of the course. Students are expected to either attend the lectures or else get detailed notes from other students who attended. Not everything that is presented in lectures appears in the online notes. Students are encouraged to ask questions during lectures and to consult with the professors on topics that they do not clearly understand. Use your classroom time wisely.

Labs and Homework Exercises

Labs are hands-on opportunities to experiment with the theoretical material that you have learned through reading and lectures. Laboratory assignments will be closely integrated with the theoretical material. Students are expected to perform initial reading, analysis, and design before their scheduled lab, to take advantage of the limited lab time. You will not have enough time to do both the reading and the lab work in the same lab period. If you spend your lab period reading instead of doing, you won't be ready to ask questions of your lab instructor and your lab period will be wasted.

The students' ability to successfully complete the assigned exercises will directly correlate with their level of success on tests and the final exam. Tests and exams are largely based on work already done in the lab.

NOTE: Knowing the specific answers to lab questions is never as important as knowing how to generate the answers. Copying answers will not enable you to pass the tests and exams; penalties will be given for copy-and-paste answers. You need to know how things work!

Consultation

Your principal source of consultation time with your instructor is during your lab period each week. If that weekly lab time is not sufficient, additional office hours can be arranged. At the beginning of the course you will be told how to arrange consultation times (office hours) with your instructors. Some consultation may be done using online resources, rather than in-person office hours.

Since office hours are scarce and may not be available, students should first make good use of their weekly lab time to consult with the instructors, before requesting outside office hours.

Samples of learning activities include: Reading the weekly online course notes. Attending and taking detailed notes during lectures, to reinforce the weekly readings. Completing hands-on practical assignments based on the readings and lectures. Completing practice tests and quizzes in preparation for midterm tests and the final exam. Asking questions during lectures and the weekly lab periods.

Evaluation/Earning Credit

The following will provide evidence of your learning achievements:	This activity validates the following outcomes:
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<p>Lab Evaluation - 40%</p> <p>Late assignments may or may not be marked. To earn full marks, submit on time.</p>	<ul style="list-style-type: none"> -Use a system remotely over a network. [CLR 1] -Use GNU/Linux command-line (shell) commands to perform systems administration tasks. [CLR 2] -Install and configure GNU/Linux. [CLR 3] -Identify, create, and manage different types of partitions and file systems under GNU/Linux. [CLR 4] -Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment [CLR 5] -Manage the boot process under GNU/Linux. [CLR 6] -Download, install, and configure software in a GNU/Linux-based environment. [CLR 7] -Respond to written, spoken or visual messages in a manner that ensures effective communication. [EES 2] -Apply a systematic approach to solve problems. [EES 4] -Use a variety of thinking skills to anticipate and solve problems. [EES 5] -Locate, select, organize and document information using appropriate technology and information systems. [EES 6] -Analyze, evaluate and apply relevant information from a variety of sources. [EES 7] -Take responsibility for one's own actions, decisions and consequences. [EES 11]
<p>Final Exam - 30%</p>	<ul style="list-style-type: none"> -Use a system remotely over a network. [CLR 1] -Use GNU/Linux command-line (shell) commands to perform systems administration tasks. [CLR 2] -Install and configure GNU/Linux. [CLR 3] -Identify, create, and manage different types of partitions and file systems under GNU/Linux. [CLR 4] -Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment [CLR 5] -Manage the boot process under GNU/Linux. [CLR 6] -Download, install, and configure software in a GNU/Linux-based environment. [CLR 7] -Respond to written, spoken or visual messages in a manner that ensures effective communication. [EES 2] -Apply a systematic approach to solve problems. [EES 4] -Use a variety of thinking skills to anticipate and solve problems. [EES 5] -Locate, select, organize and document information using appropriate technology and information systems. [EES 6] -Analyze, evaluate and apply relevant information from a variety of sources. [EES 7] -Take responsibility for one's own actions, decisions and consequences. [EES 11]

<p>Second Midterm test - 15%</p>	<ul style="list-style-type: none"> -Use a system remotely over a network. [CLR 1] -Use GNU/Linux command-line (shell) commands to perform systems administration tasks. [CLR 2] -Install and configure GNU/Linux. [CLR 3] -Identify, create, and manage different types of partitions and file systems under GNU/Linux. [CLR 4] -Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment [CLR 5] -Manage the boot process under GNU/Linux. [CLR 6] -Download, install, and configure software in a GNU/Linux-based environment. [CLR 7] -Respond to written, spoken or visual messages in a manner that ensures effective communication. [EES 2] -Apply a systematic approach to solve problems. [EES 4] -Use a variety of thinking skills to anticipate and solve problems. [EES 5] -Locate, select, organize and document information using appropriate technology and information systems. [EES 6] -Analyze, evaluate and apply relevant information from a variety of sources. [EES 7] -Take responsibility for one's own actions, decisions and consequences. [EES 11]
<p>First Midterm Test - 10%</p>	<ul style="list-style-type: none"> -Use a system remotely over a network. [CLR 1] -Use GNU/Linux command-line (shell) commands to perform systems administration tasks. [CLR 2] -Install and configure GNU/Linux. [CLR 3] -Identify, create, and manage different types of partitions and file systems under GNU/Linux. [CLR 4] -Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment [CLR 5] -Manage the boot process under GNU/Linux. [CLR 6] -Download, install, and configure software in a GNU/Linux-based environment. [CLR 7] -Respond to written, spoken or visual messages in a manner that ensures effective communication. [EES 2] -Apply a systematic approach to solve problems. [EES 4] -Use a variety of thinking skills to anticipate and solve problems. [EES 5] -Locate, select, organize and document information using appropriate technology and information systems. [EES 6] -Analyze, evaluate and apply relevant information from a variety of sources. [EES 7] -Take responsibility for one's own actions, decisions and consequences. [EES 11]

<p>Quizzes (in-class or online) - 5%</p>	<ul style="list-style-type: none"> -Use a system remotely over a network. [CLR 1] -Use GNU/Linux command-line (shell) commands to perform systems administration tasks. [CLR 2] -Install and configure GNU/Linux. [CLR 3] -Identify, create, and manage different types of partitions and file systems under GNU/Linux. [CLR 4] -Create and manage user accounts, groups, and permissions in a GNU/Linux-based environment [CLR 5] -Manage the boot process under GNU/Linux. [CLR 6] -Download, install, and configure software in a GNU/Linux-based environment. [CLR 7] -Respond to written, spoken or visual messages in a manner that ensures effective communication. [EES 2] -Apply a systematic approach to solve problems. [EES 4] -Use a variety of thinking skills to anticipate and solve problems. [EES 5] -Locate, select, organize and document information using appropriate technology and information systems. [EES 6] -Analyze, evaluate and apply relevant information from a variety of sources. [EES 7] -Take responsibility for one's own actions, decisions and consequences. [EES 11]
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Prior Learning Assessment and Recognition

Students who wish to apply for prior learning assessment and recognition (PLAR) need to demonstrate competency at a post-secondary level in all of the course learning requirements outlined above. Evidence of learning achievement for PLAR candidates includes:

- Challenge Exam
- Performance Test

Grade Scheme

Final Grade	Mark Equivalent	Numeric Value	Final Grade	Mark Equivalent	Numeric Value
A+	90% - 100%	4.0	A	85% - 89%	3.8
A-	80% - 84%	3.6	B+	77% - 79%	3.3
B	73% - 76%	3.0	B-	70% - 72%	2.7
C+	67% - 69%	2.3	C	63% - 66%	2.0
C-	60% - 62%	1.7	D+	57% - 59%	1.4
D	53% - 56%	1.2	D-	50% - 52%	1.0
F	0% - 49%	0	FSP	0	0

Course Related Information

There is no "group work" or "working together" in this course. You can share you ideas but never your answers. Students caught copying answers from anywhere will be charged with academic fraud under College Directive AA20: Plagiarism. **You must create and type your own answers; no copying-and-pasting from other sources.**

Students loaning out assignment solutions will also be penalized. Never loan your solutions; the student copying your solutions submits the copy and you both get penalized.

Program Related Information

0150X01FWO - Computer Systems Technician

Theory Evaluation:

Theory evaluation is conducted by the Professor, and submitted to the final grade roll-up.

Theory attendance, in-class quiz and tests may be a part of the course requirements, will be identified by your professor, and is unique to each individual course. All students are encouraged to prepare before class, attend class regularly, and actively participate while in class to enrich their learning experience. Policy AA42 outlines the requirements for posting class notes or information to Blackboard. Any such information made available by professors is done solely to assist students in understanding the material presented and is not intended to replace attendance to theory class. Any and all information presented in class is considered testable material, be it presented verbally, written on the whiteboard, on-screen, or in a document - whether students were in attendance or not. It remains the student's responsibility to attend class, listen and take adequate notes, as needed.

Lab Evaluation:

Lab evaluation is conducted by the Lab Professor, and submitted to the final grade roll-up. In this program, the following criteria may be required in order to obtain a non-zero lab mark:

Satisfactory attendance and participation in the lab; N.B.: lab attendance requirements will be identified by your professor, and is specific to each individual course. Satisfactory workmanship and behavior in the lab; Satisfactory adherence to rules prescribed for the lab facility; Being properly equipped & prepared for lab work prior to attending the lab; N.B.: coming to your lab period without the required equipment/tools or being prepared may result in you being marked as absent, at your professor's discretion. Timely completion of individual labs and required work therein on the student's assigned lab computer, as prescribed by lab handouts. Late submission or extended deadlines may be afforded, along with associated penalties - these will be identified by your professor, and are specific to each individual course. Work done outside of the lab environment may not be counted, unless indicated otherwise by your lab teacher. The lab Professor reserves the right to suspend or deny access to the lab at any time if the above criteria are not being met. No allowances are made in the course for students whose access in the lab are suspended or denied.

Final Examination

All students are expected to write the final exam. There are no provisions for "making up" a missed final exam. If, as a result of being off-track in your program or some unforeseen circumstance, you note that there is a scheduling conflict in your final exam schedule, it is your responsibility to alert the your program coordinator no later than one week before final exams start, to allow for any special arrangements.

0150X03FWO - Computer Systems Technician

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0156X01FWO - Computer Systems Technology - Security

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Department Related Information

STUDENT ACADEMIC RESPONSIBILITIES

Each student is responsible for:

- Knowing the due dates for marked out-of-class assignments.
- Attending all classes and knowing the dates of in-class marked assignments and exercises.
- Maintaining a folder of all work done in the course during the semester for validation claims in cases of disagreement with faculty.
- Keeping both paper and electronic copies of all assignments, marked and unmarked, in case papers are lost or go missing.
- Regularly checking both Blackboard announcements as well as one's Algonquin e-mail account for important messages from both professors and college administration.
- Participating in on-line and classroom exercises and activities as required.
- Retaining course outlines for possible future use to support applications for transfer of credit to other educational institutions.

Harassment/Discrimination/Violence will not be tolerated. Any form of harassment (sexual, racial, gender or disability-related), discrimination (direct or indirect), or violence, whether involving a professor and a student or amongst students, will not be tolerated on the college premises. Action taken will start with a formal warning and proceed to the full disciplinary actions as outlined in Algonquin College Policies - HR22 and SA07.

Harassment means one or a series of vexatious comment(s) (whether done verbally or through electronic means), or conduct related to one or more of the prohibited grounds that is known or ought reasonably to be known to be unwelcome/unwanted, offensive, intimidating, derogatory or hostile. This may include, but is not limited to: gestures, remarks, jokes, taunting, innuendo, display of offensive materials, offensive graffiti, threats, verbal or physical assault, stalking, slurs, shunning or exclusion related to the prohibited grounds.

For further information, a copy of the official policy statement can be obtained from the Student Association.

Violation of the Copyright Act

General – The Copyright Act makes it an offence to reproduce or distribute, in whatever format, any part of a publication without the prior written permission of the publisher. For complete details, see the Government of Canada website at <http://laws.justice.gc.ca/en/C-42> . Make sure you give it due consideration, before deciding not to purchase a textbook or material required for your course.

Software Piracy - The Copyright Act has been updated to include software products. Be sure to carefully read the licensing agreement of any product you purchase or download, and understand the terms and conditions covering its use, installation and distribution (where applicable). Any infringement of licensing agreement makes you liable under the law.

Disruptive Behaviour is any conduct, or threatened conduct, that is disruptive to the learning process or that interferes with the well being of other members of the College community. It will not be tolerated. Members of the College community, both students and staff, have the right to learn and work in a secure and productive environment. The College will make every effort to protect that right. Incidents of disruptive behaviour must be reported in writing to the departmental Chair as quickly as possible. The Chair will hold a hearing to review available information and determine any sanctions that will be imposed. Disciplinary hearings can result in penalties ranging from a written warning to expulsion.

For further details, consult the Algonquin College Policies AA32, SA07 and IT01 in your Instaguide.

College Related Information

Email

Algonquin College provides all full-time students with an e-mail account. This is the address that will be used when the College, your professors, or your fellow students communicate important information about your

program or course events. It is your responsibility to ensure that you know how to send and receive e-mail using your Algonquin account and to check it regularly.

Centre for Students with Disabilities (CSD)

If you are a student with a disability, it is strongly recommended that you identify your needs to the professor and the Centre for Students with Disabilities (CSD) by the end of the first month of the semester in order that any necessary support services can be arranged for you.

Academic Integrity* & Plagiarism*

Adherence to acceptable standards of academic honesty is an important aspect of the learning process at Algonquin College. Academic work submitted by a student is evaluated on the assumption that the work presented by the student is his or her own, unless designated otherwise. For further details consult Algonquin College Policies AA18 <http://www3.algonquincollege.com/directives/policy/academic-discipline/> and AA20 <http://www3.algonquincollege.com/directives/policy/plagiarism/>

Student Course Feedback*

It is Algonquin College's policy to give students the opportunity to complete a course assessment survey in each course that they take which solicits their views regarding the curriculum, the professor and the facilities. For further details consult Algonquin College Policy AA25 <http://www3.algonquincollege.com/directives/policy/course-assessment/>

Use of Electronic Devices in Class*

With the proliferation of small, personal electronic devices used for communications and data storage, Algonquin College believes there is a need to address their use during classes and examinations. During classes, the use of such devices is disruptive and disrespectful to others. During examinations, the use of such devices may facilitate cheating. For further details consult Algonquin College Policy AA32 <http://www3.algonquincollege.com/directives/policy/use-of-electronic-devices-in-the-academic-environment/>

Transfer of Credit

Students, it is your responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.

Note: College policies (previously called directives) are under review and redesign. The term *directives* is being retired. Students, it is your responsibility to refer to the Algonquin College Directives/Policies website for the most current information available at <http://www3.algonquincollege.com/directives/>

Legend

Terms

- ALO: Aboriginal Learning Outcome
- Apprenticeship LO: Apprenticeship Learning Outcome
- CLR: Course Learning Requirement
- DPLO: Degree Program Learning Outcome
- EES: Essential Employability Skill
- EOP: Element of Performance
- GELO: General Education Learning Outcome
- LO: Learning Outcome
- PLA: Prior Learning Assessment
- PLAR: Prior Learning Assessment and Recognition
- VLO: Vocational Learning Outcome

Assessment Levels

- T: Taught

-A: Assessed

-CP: Culminating Performance