Course Plan

Cégep de la Gaspésie et des Îles
Montreal Campus

Continuing Education Service

Computer Sciences Techniques
LEA.CN

Operating Systems
420-CC5-GA

WEIGHTING: 2-3-2 **DURATION: 75 hours** **UNITS: 2.33**

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Fall 2018 - Group 408

1. GENERAL COURSE DESCRIPTION

The students examine the basic and advanced topics related to the Operating System concepts. They learn what a file system is and how to manage its resources as well as to customize computer's environment and automate common tasks.

2. PLACE OF THE COURSE WITHIN THE PROGRAM

This course is offered in the second block.

3. COMPETENCY AND ELEMENTS OF THE COMPETENCY

Code	Competency	Elements
016Q	Exploit the possibilities of an operating system on a specific computer.	1. Make full use of a file management system.
		2. Automate tasks.
		3. Use memory management methods.
		4. Customize the computer environment.

4. CONTENT

Elements	Performance criteria	Content
1. Make full use of a file management system.	1.1 Comparison of the features and limitations of the file management systems of different operating systems. 1.2 Correct use of file management commands. 1.3 Correct use of directory management commands.	• Comparison of different File Systems in Windows and Unix- Like OSes • Basic File and Folder Management in Windows thru GUI, Command Prompt and PowerShell • Basic File and Directory Management in Unix- Like OSes with GUI and Bash/CLI
2. Automate tasks.	2.1 Thorough analysis of the job performance features and limitations of different operating systems. 2.2 Correct use of the operating system's command language. 2.3 Use of commands to prioritize tasks. 2.4 Adaptation of security measures to task requirements. 2.5 Application of appropriate debugging techniques to the operating system. 2.6 Logging of pertinent comments.	• Event log and Task Management (MMC) system in Windows and Jobs, Signals, PIDs and Advanced Process Management, and Priorities in Linux • Maintaining of the File Systems • Analyzing Security Threats and applying the appropriate concepts and technologies • Debugging and commenting of the Operating Systems
3. Use memory management methods.	3.1 Analysis of the memory management features and limitations of different operating systems. 3.2 Memory allocation appropriate for task performance needs.	• The Main and the Virtual Memory • Design, Implementation and Issues with the Memory
4. Customize the computer environment.	4.1 Comparison of the different types of configuration files specific to the Operating System. 4.2 Correct use of the workstation's basic configuration commands. 4.3 Correct use of start-up and peripheral configuration commands. 4.4 Program start-up suited to user's needs. 4.5 Adaptation of the working environment's configuration parameters to the user's requirements. 4.6 Precise logging of customization parameters.	• The types of configuration files for Windows and Unix- Like OSes. The directory structure in both. • The boot process. The run levels management in Unix- Like systems. • Windows and Linux User Interfaces and their management • User Profiles and Customization of the operating systems' parameters

5. TEACHING METHODS

Lecture: The lecture portion of this course will provide an understanding of course fundamentals, specifically by exploring the course theoretical content. It will help give you a head start understanding of the basic knowledge prior to the labs. The lecture is also designed to give you a broader view of the course. All overhead documents used during each lecture will be posted on the overall course website. The assigned reading should be done before the class in which the material is discussed.

Lab: Labs will be used to explore course content through the use of manipulative examples, software, and other activities. These are designed to explore the course materials, teaching activities, additional examples, and additional information.

Tests, quizzes and in class activities: Tests and in class activities are a very important part of the course and in order to fully master the topics it is essential that you work carefully on every assignment and try your best to complete every problem.

Teacher availability: The teacher is always available for questions by email. Questions of common interest will be answered at the beginning of the next class.

6. LEARNING ACTIVITIES

- Discussions about the basics and differences of the file systems.
- Application of the common file and folder management in different operating systems.
- Exercising how to analyze and maintain the operating systems.
- Applying tasks of avoiding the common security threats and applying the appropriate concepts and technologies into the different operating systems.
- Analysis of the memory management features and limitations of different operating systems and discussions about the practical aspects of it.
- Reading about the different types of configuration files specific to the operating systems and their customization.

7. EVALUATION

Formative evaluation:

Formative evaluation is an ongoing diagnostic type of assessment which provides feedback to students and teachers over the course of instruction. Students do not receive a mark for any type of formative evaluation as opposed to summative evaluation.

The lecture will involve different tests, quizzes, and in class activities which will be given in the form of labs but count as part of the lecture component.

Summative evaluation

The **term-end evaluation** will consist of one integrative project in three (3) parts. All final project parts will be inspired from the homework and in class activity assignments. Information about these will be posted at the course site. The final project evaluation will be held in class instead of a lecture.

There will be 4 in class activities and the best results for 2 out of 4 activities will count. Each of the two (2) best results will count for 20 %.

Instrument	Elements evaluated	Weighting	When
Four (4) in class activities	1. Make full use of a file management system. 2. Automate tasks. 3. Use memory management methods. 4. Customize the computer environment.	40% (2 X 20%)	NA
Term-end evaluation : Final Exam	1. Make full use of a file management system. 2. Automate tasks. 3. Use memory management methods. 4. Customize the computer environment.	30%	January 21, 2019
Term-end evaluation : Project	1. Make full use of a file management system. 2. Automate tasks. 3. Use memory management methods. 4. Customize the computer environment.	30%	January 7, 2019
TOTAL		100	

8. ATTENDANCE AND LATENESS POLICY

If a student arrives late for class, the student could be allowed to enter the class. However the teacher will register the absence for minimum cumulative periods of 30 minutes. For example, if a student arrives 10 minutes late he or she will be marked absent for 30 minutes. If a student arrives after 40 minutes, he or she will be marked absent for 1 hour.

However, the teacher reserves the right to have the student wait until a more appropriate time for the student to enter the classroom.

Nonetheless, if a student arrives late when there is an evaluation or when an important part of the subject matter has already been introduced, the teacher reserves the right to decide if the student can or cannot enter the classroom

9. REQUIRED INSTRUCTION MANUAL

Textbooks: None required. Various documents, articles, and books references will be supplied, throughout the semester.

Resource materials: No required specific textbook for this course. Important course information will be posted at the course website, and this is the main method of communicating information. It is the student's responsibility to check the web site regularly for important course information.

Software and tools: A bundle of software and tools will be introduced during the course in different workshop activities

9. BIBLIOGRAPHY

1. Fundamentals of Unix: Solaris and Linux Supplement., By Dan Myers and Jim Lorenz, Published by Cisco Press

2. Windows Operating System Fundamentals, By Microsoft, Published by Wiley

Cégep de la Gaspésie et des Îles

SUMMARY OF INFORMATION RESPECTING INSTITUTIONAL POLICIES ON THE EVALUATION OF STUDENT ACHIEVEMENT

1. Attendance in class and for practical training

1.1. Regular participation in the course (activities inside and outside the classroom) is considered essential for skills mastery.

1.2. Class attendance will be recorded at each class.

1.3. Students arriving late for class may be refused access by the teacher.

1.4. It is the student's responsibility to provide the teacher or academic advisor with a reason for an absence. During a practical activity, the student must give a reason for an absence to the activity sponsor and to the supervisor

1.5. For continuing education purposes, the following reasons can be given to justify an absence: legal situations (supported by a document), death of a family member, health care (with a professional's note) and parental obligation.

1.6. However, even in the case of justified absences, the student is at risk of being expelled from the course after a maximum of 20%. The teacher will inform the coordinator, who will decide what action to take.

1.7. A student who must be absent for an undetermined period because of exceptional circumstances must inform the academic advisor, who will decide what action to take.

1.8. Presence at practical activities is compulsory. An absent student may be expelled from his or her practical activity for an unjustified absence. The activity's supervisor will inform the academic advisor, who will decide what action to take.

1.9. A student absent without a reason deemed valid by the teacher must not expect the teacher to provide special attention aimed at making up missed learning.

2. Language quality

2.1. In accordance with the Institutional Language Policy, the Continuing Education Service must strive to ensure students' language quality.

2.2. For assignments and exams, the summative assessment of language quality counts for 10% of the mark.

2.3. In programs and courses where mastery of the written language is a learning objective, the Continuing Education Service reserves the possibility of setting the summative assessment of language quality at more than 10%. The decision will be made by the program team.

2.4. The Continuing Education Service reserves the right to use the clauses concerning language quality that are found in the Departmental Learning Policy of the departments in which continuing education courses and programs originate. Thus, the maximum credit given for language may, in some cases, exceed 10%.

Clause 2.9.3 of the Institutional Policy on the Evaluation of Student Achievement

2.9.3 *For allophone clients and immersion students, 10% of marks will be given for language quality in the first year, but a student will be allowed to make up entirely the 10% if he or she makes corrections to an assignment within 5 days. In the second year, a total of 10% will also be given for language*

quality. A student can make up half (5%) if he or she makes corrections to an assignment. In the third year, the same rules apply for all students.

For exams taken in class, there is no penalty for language quality for allophone students.

3. Presentation of assigned work

3.1 The manner in which assigned work must be handed in will be in accordance with the usual methodological standards. Students should consult the student guide delivered to them during the orientation activity.

3.2 The deadlines set for handing in written work and presenting activities must be met.

3.3 The student is responsible for handing in his or her work before the deadline, which must be respected even if the student is absent.

3.4 A penalty of 10% will be applied for each late day up to a maximum of 50% (5 days) to work handed in late. The student must give the teacher **prior notice** that work will be handed in late; if not, the work can be refused. After 5 days, unless there are extenuating circumstances, a mark of zero will be given for work handed in late.

4. Pass Mark

Clause 2.4 of the Institutional Policy on the Evaluation of Student Achievement

2.4.1 The pass mark is 60% (Section 27, College Education Regulations)

5. Cheating and plagiarism

Clause 2.12 of the Institutional Policy on the Evaluation of Student Achievement

2.12.1 All cheating, attempt to cheat or collaboration in cheating will result in a mark of zero for the test or work involved. In such cases, the teacher must seize the documents and make a report, which must be sent to the centre's office by the department coordinator or academic advisor for continuing education. The use of MP3 players, cell phones and laptop computers (unless authorized) is prohibited.

2.12.2 A student who plagiarises, that is, who steals or passes off as his or her own any work whatsoever, regardless of the source, of any author without giving a proper credit to the author will be given a mark of zero for the work handed in.

2.12.3 Any subsequent cheating or plagiarism by that student will result in a mark of zero for the entire course involved.

6. Review of marks

Clause 2.15 of the Institutional Policy on the Evaluation of Student Achievement

2.15.1 Any student who wants a review of the mark given for assigned work or for a summative assessment test during a session must ask the teacher within 5 working days following receipt of the mark.

Review of the mark for a final assessment test

2.15.2 Any student who wants a review of the mark given for a final assessment test, must address his or her request to the academic office or the academic advisor for continuing education ***within 10 working days following the entry of the final mark in Omnivox****.*

2.15.3 The department must form a review committee made up of three teaching staff members (including the teacher concerned). The committee will send the final mark after review to the Studies Department. For continuing education, the review committee must be made up of two teaching staff members and include the teacher concerned as well as the pedagogical counsellor.

September 2017