LaSalle College
Montréal

COURSE OUTLINE

Course Identification

Name of program – Code:	MOBILE AND WEB APPLICATIONS DEVELOPMENT FOR THE MOBILE DEVICES – LEA.00
Course title:	**ELEMENTS OF MOBILE DEVICES**
Course number:	420-AM9-AS
Total number of course hours:	45 hours
Weighting:	1-2-2
Statement of the competencies – Codes:	Exploit the possibilities of an operating system on a specific computer – 016Q
	Install hardware and software on a computer – 016R

Contribution of the Course in the Program

Course position

This course is located in the first semester of the *Mobile and Web Applications development for the mobile devices* – LEA.00 program. Its duration is 45 hours divided into 15 hours of theory and 30 hours of computer lab. In addition, the students enrolled in this course are encouraged to spend at least 30 hours of homework. It is the only course to develop 016Q and 016R competencies. There are no prerequisite for this course and it is not a prerequisite for any another course. Finally, the knowledge and skills acquired in this course will be reinvested in the course *Project Management* (420-GP6-AS) and *Final Project* (420-PS6-AS).

Scope of the course

In this course, the students get acquainted with the different mobile platforms. They are introduced to the different types of Operating systems and their functionalities. The students will also learn how to use the various devices with the ability to install and uninstall software. User interface design standards for the different platforms will be discussed in detail as well as the different existing mobile services that can be integrated for the end user across different platforms.

Upon completion of the course, the students will have a thorough understanding and hands-on experience with the differences of developing for mobile application versus desktop applications. They will also know about the main services available such as location services, social media tools, cloud technology, etc., and be able to discuss issues regarding security.

Course Components (Objective and Standard of the Competencies)

Expected outcomes (achievement context of the competencies)

The achievement context of these competencies will reflect the conditions as they occur in the following settings: academic, professional, work, or life environment.

Achievement context of the competency *Exploit the possibilities of an operating system on a specific computer* – 016Q:

- In various operating system environments.
- Using a workstation and the appropriate software.
- Using appropriate technical reference manuals.
- Based on company standards and requirements.

Achievement context of the competency *Install hardware and software on a computer* – 016R:

- In the lab and at the user's workplace.
- Based on a pre-authorized request specifying the type of installation.
- Using a workstation.
- Working with the hardware and software to be installed and the appropriate utilities.
- Based on company standards and requirements.
- Using appropriate technical reference manuals.

Throughout the course, you will engage in various learning situations/activities so that by the end of the course, you will have met the expected outcomes.

Elements and performance criteria

The elements of an objective formulated in terms of the competency specify its essential components. They include only what is necessary in order to understand and master the competency. If the competency is described as a process, the elements are the steps for execution.

The performance criteria are the specific pre-established requirements upon which you and your teacher can objectively judge your development of the targeted competency. They are part of the description of this competency. They are prescriptive.

Sometimes an element appears in more than one course. If this is the case, a number indicates its complexity level: level one (1) being the simplest, level two (2), average, and level three (3), advanced, at the ministerial level.

Below are the elements of the competencies and performance criteria for this course that are to be respected:

Competency: Exploit the possibilities of an operating system on a specific computer – 016Q ***General ministerial and institutional performance criteria:*** – Ability to manage time in a professional environment while keeping in mind the objectives to be achieved.	
Elements of the competency	***Performance criteria specific to each element***
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. 1.4 Correct use of commands to ensure the security of files and directories. 1.5 Correct use of utilities to store data and ensure its integrity.
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.
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.
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.

Competency: Install hardware and software on a computer – 016R

General ministerial and institutional performance criteria:

- Ability to communicate effectively with clients.
- Ability to diagnose and fix without delay the problems that occur.

Elements of the competency	***Performance criteria specific to each element***
1. Analyze the internal architecture of a computer.	1.1 Identification and location of the elements of the motherboard. 1.2 Identification of the features and functions of processors, memories, buses and clocks. 1.3 Identification of the features and functions of the different communication ports.

	1.4 Description of the relationships between the different components.
2 Produce an installation plan.	2.1 Careful analysis of the request. 2.2 Preparation of the necessary equipment and materials. 2.3 Correct determination of the sequence of operations.
3 Ensure the security of the workstation and its data.	3.1 Complete record of the initial physical configuration. 3.2 Back-up copy of all the data. 3.3 Application of the appropriate security measures.
4 Install hardware.	4.1 Correct interpretation of the technical specifications. 4.2 Appropriate definition of each installation parameter. 4.3 Installation of the element in the correct location. 4.4 Configuration consistent with the workstation's operating system. 4.5 Appropriate verification to ensure that the element installed functions properly.
5 Uninstall the hardware components.	5.1 Correct interpretation of technical data. 5.2 Element removed by following the steps of the uninstall process. 5.3 Application of the appropriate security measures.
6 Install software.	6.1 Correct interpretation of technical data. 6.2 Properly launched installation process. 6.3 Choice of installation parameters according to the workstation's operating system. 6.4 Appropriate verification that the software functions properly. 6.5 Software customization according to the user's needs.
7 Uninstall software.	7.1 Back-up copy of the disks. 7.2 Correct interpretation of the technical data. 7.3 Correct use of the utilities to uninstall the software. 7.4 Software removed by following the steps of the manual uninstall process.
8 Verify the functionality of the user's workstation.	8.1 Appropriate verification to ensure that the workstation is functioning properly. 8.2 Effective resolution of installation problems.

	8.3 Workstation installed according to ergonomic principles.
9 Log information about the installation.	9.1 Logging of the new configuration. 9.2 Clear and correct records kept on the problems encountered and their solutions. 9.3 Precise inventory update.

Course Content/Main Themes

*Listed below is the **essential** content to be covered in this course:*

- Introduction to the world of mobile technology;
- Different platforms (iOS, Android, etc.) and devices (tablets, phones, watches, etc.);
- Overview of the Apple iOS operating system platform;
- Software and services of iOS;
- Overview of Android operating system platform;
- Software and services for the Android;
- Security issues of all platforms;
- Design applications for iOS (interface design standards and development tools);
- Design applications for Android (interface design standards and development tools).

Learning Activities

Provided below are examples of learning activities that correspond to the competencies for this course. The learning activities are found in the course calendar that complements this course outline.

- Group discussions;
- Application exercises following teachers' demonstrations;
- Case studies;
- Problem solving;
- Project.

Terms for Evaluating Learning

The evaluation of your learning is based on two inseparable methods: formative evaluation and summative evaluation. These two evaluation types are formal. Detailed information on the evaluation schedule is found in the course calendar, under the "Formative and summative evaluation schedule" column.

Formative evaluation

Following a learning activity or learning period, time is set aside for introspection. You will determine what has been understood and achieved and seek to identify the nature and origin of weak areas. These designated periods consist of simple means: short tests, association games, logbooks, a portfolio, questions, creating of samples, etc.

Formative evaluation is frequent and covers as many aspects as possible. It takes place in class, individually or in groups, and leads to immediate decisions. ***You are the one who assumes the bulk of the work during individual or group corrections, adjustments and other self-evaluation tasks. The purpose is not to determine grades.***

If you take the formative evaluations seriously throughout the course, you will ensure preparedness for the summative evaluations. You will be able to make the necessary progress to acquire the targeted competency at the required level, according to the achievement context and pre-established performance criteria.

Below are some examples of formative evaluation methods that correspond to the targeted competencies for this course:

- Group discussions;
- Problem solving;
- Case studies;
- Feedback from the teacher following students application exercises.

Summative evaluation

Summative evaluations are less frequent. They take place later on, towards the middle and end of the semester. This gives you the time to integrate your learning and to learn how to apply it to situations related to the targeted competency. The summative evaluation material is prepared by your teacher according to the description of the course's targeted competency: its elements, achievement context and performance criteria.

The work completed in summative evaluations is graded. The purpose is to determine what you have learned.

Below is the information on the summative evaluation schedule and details for this course, as well as the weighting of marks:

Evaluations	***Weighting***
Mid-term Exam	30%
Project	30%
Final Exam	40%
Total	100%

Institutional Requirements

Student's commitment

By registering for this course, you commit to:

- *obtain the necessary course materials at the start of the semester;*
- *participate in the learning activities, formative and summative evaluation activities outlined in the course calendar;*
- *complete the work assigned to you and;*
- *submit the work on time.*

Here are some particular commitments for this class:

- Treat classmates with respect.

Teacher's commitment

Your teacher commits to:

- *create varied learning situations that enable you to put into practice the knowledge, actions and professional behaviour of the targeted competency;*
- *plan sufficient and appropriate formative evaluation activities – involving correction and improvement – that provide frequent feedback, allowing you to be well informed of your progress;*
- *provide summative evaluations that correspond to the course's targeted competency and;*
- *evaluate work according to the applicable criteria, in a fair and equitable manner.*

Here are some particular commitments for this class:

- Treat students with fairness and respect.

The Institutional Policy on Evaluating Learning (IPEL) is applied to all institutional programs. Listed below are a few of its clauses:

Written language

The teacher is responsible for identifying spelling and grammar errors and for deducting the corresponding number of marks for any given summative evaluation.

Below is the % – based on language requirements – that can be deducted from the grade of each summative evaluation:

- Up to 5%.

Class attendance

Attendance and participation in classes and evaluations are mandatory for all students.

The teacher has the responsibility of monitoring attendance and of evaluating the reasons justifying student absences from classes.

A student whose absences exceed the allowable number for the course could be denied access to the final exam for that course.

Plagiarism and cheating

Plagiarism, attempts at plagiarism or complicity in plagiarism, whether in an exam or an assignment to be evaluated, constitutes an infraction. Plagiarism and cheating include:

- *using part or all of someone else's work and passing it off as one's own, without indicating the appropriate reference;*
- *having or using unauthorized documents, material or equipment during an exam;*
- *using the exam of another student during an exam;*
- *having another student do one's work for an evaluation;*
- *substituting a different person to write an exam or assignment to be evaluated and;*
- *using an evaluation already completed for another course.*

Plagiarism, attempts at plagiarism or fraud, or collaboration in plagiarism or fraud are prohibited and considered serious offences. Thus, any instances of plagiarism or fraud will lead to a grade of '0' for the assignment in question. In addition, a note will be made in the student's file and the student will receive a written notice from his or her Program Directorate to that effect.

In the case of recidivism, in the same course or in another course, the student will be given a grade of '0' for the course in question. A second note is made in the student's file and the student will receive a summons from his or her Program Directorate. For a third offence, he or she may be expelled from the College.

Submission of work and tests

All assignments must be submitted in class at the time designated by the teacher. Any late submissions result in a grade of zero (0).

Upon presentation of an official supporting document or valid reason for the absence, the student may request an extension from the teacher, who may accept or refuse the student's work and apply a penalty for the lateness.

Program Directorates do not accept student work. Assignments must be submitted directly to the teacher.

Rules and regulations to follow

Late arrivals

The teacher may refuse to admit to the classroom any student arriving late. A late arrival is considered an absence for that period.

Note: Students arriving late must recognize that the information they missed will not be repeated. Late students are therefore responsible for asking their peers about the material they missed. Arriving after the break, as well as leaving before the end of the class, may result in one or more hours of absence.

Eating and drinking in class

Eating and drinking are prohibited in the classrooms, locker rooms and Documentation Centre. Food may only be eaten in the cafeteria, vending machine areas and student lounges.

Mandatory Course Material

Although the college offers everything needed for this program, the use of a laptop would be helpful.

Laptop with specifications mentioned on the college's website. LaSalle College. Bring Your Own Device. 2017. < http://www.lasallecollege.com/futur-students/bring-your-own-device >

Bibliography for this Course

APPLE INC. *Apple Worldwide Developers Conference.* 2015. < https://developer.apple.com/wwdc/ >.

GOOGLE. *Google Developers.* 2015. < https://developers.google.com/events/ >.

Academic Studies Directorate Approval: *Signature and date of approval*

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Date : 2018.07.18 17:00:35 -04'00'