Course Plan

Cégep de la Gaspésie et des Îles
Montreal Campus

Continuing Education Service

Computer Sciences Techniques
LEA.CN

Design of Android Applications
420-C95-GA

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

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Summer 2018 - Group 406

1. GENERAL COURSE DESCRIPTION

The student discovers the basics of mobile programming for Android programming platform. He or she learns about the mobile application installation, including the production of an operations guide for the installation. The student examines functional improvements to an application, as well as the technology needed to verify the performance of an application.

2. PLACE OF THE COURSE WITHIN THE PROGRAM

This course is offered in the block 5.

3. COMPETENCY AND ELEMENTS OF THE COMPETENCY

Code	Competency	Elements
017A	Install an application.	1. Plan the installation.
		2. Configure the environment.
		3. Validate the quality of the installation.
		4. Ensure installation follow-up.
		5. Produce an operations guide for the installation.
0176	Make functional improvements to an application.	1. Analyze the features of an application.
		2. Analyze the nature of the improvements to be made to an application.
		3. Add functions to an application and modify them.
		4. Verify the performance of an application.

Achievement Context - Install an application.

- Using a workstation and utility software.
- Using appropriate hardware, software and tools.
- In various environments.
- Using applications representative of the workplace.
- Based on company requirements.
- Based on documentation on each of the applications.
- Using appropriate technical reference manuals.
- In conjunction with the network administrator and the installation technician.

4. CONTENT

Elements	Performance criteria	Content
017A - Install an application		
1. Plan the installation.	1.1 Choice of the appropriate installation strategy for the context. 1.2 Evaluation of the human and material resources necessary for the installation. 1.3 Identification of the steps and procedures of the installation. 1.4 Correct anticipation of potential installation problems. 1.5 Creation of a realistic work schedule. 1.6 Effective communication of pertinent information to concerned parties.	Plan the installation.
2. Configure the environment.	2.1 Strict adherence to the installation plan. 2.2 Adaptation of the hardware environment to the application's requirements. 2.3 Copy of the application and existing data. 2.4 Correct installation and configuration of the application.	Configure the environment.

	2.5 Appropriate data and preparation. 2.6 Application of ergonomic principles.	
3. Validate the quality of the installation.	3.1 Strict execution of application performance tests in the production context. 3.2 Thorough check to ensure that the set of applications perform to their maximum potential in the given environment. 3.3 Copy of the implemented application and its data. 3.4 Effective problem solving. 3.5 Appropriate stress management.	Validate the quality of the installation.
4. Ensure installation follow-up.	4.1 Effective communication of pertinent information to concerned parties. 4.2 Solicitation of comments from users about the application. 4.3 Effective analysis and resolution of problems resulting from the installation.	Ensure installation follow-up.
1. Produce an operations guide for the installation.	5.1 Information on the installations and configurations. 5.2 Presence of pertinent information on the application's production procedures. 5.3 Information on possible problems and their solutions. 5.4 Strict application of composition and presentation rules.	Produce an operations guide for the installation.
Elements	**Performance criteria**	**Content**
0176 - Make functional improvements to an application.		
. Analyze the features of an application.	1.1 Complete examination of all available documentation on the application. 1.2 Examination of the application's functions and the relationship between them. 1.3 Examination of the application's features in	Make functional improvements to an application. Analyze the features of an application.

	terms of data and programming. 1.4 Complete examination of company requirements.	
2. Analyze the nature of the improvements to be made to an application.	2.1 Identification of the functions to be added to the application. 2.2 Identification of the changes to be made to existing functions. 2.3 Verification of the feasibility of making the changes in the application's environment. 2.4 Identifying the repercussions of making the proposed changes to the programs and data.	Analyze the nature of the improvements to be made to an application.
3. Add functions to an application and modify them.	3.1 Realistic planning of key activities. 3.2 Development and modification of appropriate algorithms. 3.3 Correct design and modification of appropriate data structures. 3.4 Correct installation of data structures. 3.5 Appropriate conversion of existing data. 3.6 Correct production and modification of the appropriate graphics interfaces. 3.7 Proper programming of new functions. 3.8 Appropriate modification of the programs affected by the changes. 3.9 Proper use of existing resources.	Add functions to an application and modify them.
4. Verify the performance of an application.	4.1 In-depth programming test of the new functions and their integration into the application. 4.2 In-depth test of the modified programs and of their performance in the application. 4.3 Complete updating of documentation on the application. 4.4 Presentation of proposals for approval during the development process and at the end of the project.	Verify the performance of an application.

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.

Homework
Homework is 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. There will be one homework assignment. Homework is due at the start of class. Late homework will not be accepted (no exceptions). It must be stapled and your name neatly written at the top right.

Tests, quizzes and in class activities
Tests, quizzes 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.

6. LEARNING ACTIVITIES

- Plan the installation.
- Configure the environment.
- Validate the quality of the installation.
- Ensure installation follow-up.
- Produce an operations guide for the installation.
- Make functional improvements to an application.
- Analyze the features of an application.
- Analyze the nature of the improvements to be made to an application.
- Add functions to an application and modify them.
- Verify the performance of an application.

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 four (4) parts. All final project parts will be inspired from the in class activities 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 6 in class activities and the best results of 4 out of 6 activities will count.

Instrument	Elements evaluated	Weighting	When
Six (6) in class activities	1. Plan the installation. 2. Configure the environment. 3. Validate the quality of the installation. 4. Ensure installation follow-up. 5. Produce an operations guide for the installation. 6. Make functional improvements to an application. 7. Analyze the features of an application. 8. Analyze the nature of the improvements to be made to an application. 9. Add functions to an application and modify them. 10. Verify the performance of an application.	40%	To be determined
Term-end evaluation : Project Part #1	1. Plan the installation. 2. Configure the environment. 3. Validate the quality of the installation. 4. Ensure installation follow-up. 5. Produce an operations guide for the installation. 6. Make functional improvements to an application. 7. Analyze the features of an application. 8. Analyze the nature of the improvements to be made to an application. 9. Add functions to an application and modify them. 10. Verify the performance of an application.	15%	To be determined
Term-end evaluation : Project Part #2	1. Plan the installation. 2. Configure the environment. 3. Validate the quality of the installation. 4. Ensure installation follow-up. 5. Produce an operations guide for the installation. 6. Make functional improvements to an application. 7. Analyze the features of an application.	15%	To be determined

	8. Analyze the nature of the improvements to be made to an application. 9. Add functions to an application and modify them. 10. Verify the performance of an application.		
Term-end evaluation : Project Part #3	1. Plan the installation. 2. Configure the environment. 3. Validate the quality of the installation. 4. Ensure installation follow-up. 5. Produce an operations guide for the installation. 6. Make functional improvements to an application. 7. Analyze the features of an application. 8. Analyze the nature of the improvements to be made to an application. 9. Add functions to an application and modify them. 10. Verify the performance of an application.	15%	To be determined
Term-end evaluation : Project Part #4	1. Plan the installation. 2. Configure the environment. 3. Validate the quality of the installation. 4. Ensure installation follow-up. 5. Produce an operations guide for the installation. 6. Make functional improvements to an application. 7. Analyze the features of an application. 8. Analyze the nature of the improvements to be made to an application. 9. Add functions to an application and modify them. 10. Verify the performance of an application.	15%	To be determined

8. **REQUIRED INSTRUCTIONAL MATERIAL**

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.

BIBLIOGRAPHY

Greg Milette, Adam Stroud. Professional Android Sensor Programming. June 5, 2012.

Roger Ye. Embedded Programming With Android: Bringing Up An Android System From Scratch. August 13, 2015.

Godfrey Nolan. Bulletproof Android: Practical Advice For Building Secure Apps. December 7, 2014.

Wallace Jackson. Android Apps for Absolute Beginners. March 28, 2011.

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