Course Outline

Internet Programming and Development (LEA.BN)

A. General Information

Course name	**Mobile Applications**
Course number	420-P84-AB
Start date	Tuesday, August 7
End date	Wednesday, August 22, 2018
Day(s) and times	Monday to Friday, 8:30 am to 2:30 pm
Classroom number	BH-213
Ponderation *Ratio of lecture, practical and homework hours*	2-2-3
Hours	60
Credits	2.33
Competency statement(s) and code(s)	DC75 – Implement a native mobile application
Prerequisite (if any)	420-PZ4-AB – Programming II
Semester	18-2
Teacher's name	Aakash Malhotra
Teacher's contact info	Contact by MIO

B. Introduction

This course is part of the Internet Programming and Development program leading to the AEC. It should be taken in the last semester of the program. In this course the student will learn about the basic components of a mobile application, how to define and implement User Interface, how to communicate over the network, use app resources, handle errors, debug a mobile app, and about mobile app development best practices.

C. Course Objectives

By the end of this course, students should be able to perform the following:

- The special requirement of software designed for mobile devices with limited resources.
- How to create an application with multiple screens and various types of user interface controls.
- How to use resources.
- How to make use of network connectivity in a mobile app.
- Best practices, debugging process and proper error handling in a mobile app.

COMPETENCY	
1. Understand the mobile app structure	● Know the core concerns related to limited resources of mobile devices ● Know the reason for existence and the use of Activities, Views, Services, and Content Providers. ● Know how to include resource files into a mobile app and how to load them from the app at runtime ● Know the directory structure of a mobile app project
2. Understand User Interface design and technology	● Know the basic building blocks of User Interface ● Know the vendor's guidelines for User Interface (UI) designs offering optimal User Experience (UX) ● Know how to edit UI design ● Know how to define an Activity class ● Know how to use ListView and various types of Adapters ● Know how to use Toast and dialog boxes
3. Understand how to handle events and broadcasts	● Know how to attach an event handler to an action on the user interface ● Know how to use anonymous inner classes to create event handlers ● Know how to receive system event broadcasts
4. Understand networking on a mobile device	● Know how to request permission to use Internet connectivity ● Know how to use AsyncTask class to execute network requests ● UI thread
5. Know how to store persistent data	● Know how to read and write to a file ● Know how to initialize and use SQLite database
6. Understand error handling and debugging of a mobile app	● Know how to write to app's log and how to view log's content ● Know how to handle exceptions and inform the user of errors ● Know how to run an app on an emulator or an actual device ● Know how to use debugger ● Know how to access the storage and detailed debug information about an Android device

D. Evaluation Plan

Evaluation	%	Session / Date	Link to competency / element					
			1	2	3	4	5	6
Quiz	25	14 Aug 2018	y	y	y		y	
Project	35	20 Aug 2018	y	y	y	y	y	y
FINAL EVALUATION (MINIMUM 40% OF FINAL GRADE)								
Final Exam	40	22 Aug 2018	y	y	y	y	y	y

10% of your grade will be deducted for late assignments that are submitted without a valid excuse (up to 10% per calendar day).

E. Course Content and Schedule

Session / Date	Hours	Content
1	5	Java Review
2	5	Introduction, Android Studio, XML, UI
3	5	Activity and Component Properties
4	5	Activity and Component Properties
5	5	Events and Event Handler
6	4	Storage of Persistent Data
6	1	Quiz
7	5	Resources
8	5	Internet Connectivity and Network Requests
9	5	Error Handling and Debugging, Project review
10	5	Project Demo
11	5	App Deployment
12	5	Further Prep Resources, Industrial Prep, Final Exam

F. Required Textbooks / Materials

Title / Item Name	Cost
None required	

G. Bibliography (if applicable)

Official Android Documentation: https://developer.android.com/

H. Teaching Methods

The course is a combination of theory and practical work. Students will be required to:

- Listen to lectures
- Watch demonstrations
- Accomplish regular work in the laboratory
- Work alone or in groups of 2 students for a project

I. Departmental and Classroom Policies

Centre for Continuing Education Classroom Behaviour Policy

Class time is limited, and each student at John Abbott College is entitled to the very best educational experience in every course. You are expected to behave in a way that is civil and courteous to others. It is important that the atmosphere of each classroom or computer lab be as conducive to the learning process as possible. The following guidelines have been established in order to create and maintain such an atmosphere.

Inappropriate behaviour in the classroom includes the following:

- Using mobile devices (phone, texting and internet) or other electronic devices unrelated to the course.
- Searching the internet or reading electronic materials unrelated to the course.
- Speaking while another person (teacher or student) has the floor (that is, he/she is addressing the class as a whole).
- Asking questions or making comments that are unrelated to the discussion at hand.
- Working on homework for other courses or other personal activities during class.
- Threatening, harassing, or offensive behaviour towards any person in the class, other students, teachers or College staff.
- Using derogatory language or referring directly or indirectly to someone else in the class in a rude manner or using offensive language.
- Misusing or abusing College computers, telephone systems or other equipment.
- Arriving late, leaving early, and leaving the room for any non-emergency without having teacher approval and the courtesy to make this known.
- Eating or drinking in the computer labs is discouraged.

A teacher is responsible for determining the appropriateness of student behaviour in the classroom. A teacher may remove a student who misbehaves in class for the duration of that period.

Centre for Continuing Education Attendance Policy

The College expects students to attend all class sessions. It is an essential requisite for their academic success and attainment of competencies. Excessive absences (over 20% of total course hours) may have consequences affecting the final course grade, including possible failure.

1. A student's attendance in class shall be excused if they provide written proof of a valid reason for missing a class, test or an evaluation due date.
2. Teachers are not required to re-teach course material missed by absent students. Students with excused absences cannot lose grades for missing a minor evaluation.

3. Teachers must provide alternate major evaluations if students miss a major evaluation due to an excused absence.
4. If a minor evaluation cannot be made up, the evaluation can be redistributed as long as all elements of the competency are assessed.
5. Absences of **less than 20% of total course hours** are addressed by the teacher and the student on a case-by-case basis.
6. Students who wish to observe religious holidays must inform their teachers, in writing, at the beginning of the semester so that alternative arrangements can be made between the teacher and student.
7. In cases of anticipated or planned absences for health or other reasons, students must request advance written approval for an excused absence from each teacher of their respective courses.

Centre for Continuing Education Late Submission of Work Policy

A teacher may deduct up to 10% per calendar day for late assignments that are submitted without a valid excuse.

J. College Policies

Policy No. 7 – IPESA, Institutional Policy on the Evaluation of Student Achievement (May 2017)

Cheating and Plagiarism (Article 9.1 & 9.2)

Cheating and plagiarism are unacceptable at John Abbott College. They represent infractions against academic integrity.

Students are expected to conduct themselves accordingly and must be responsible for all of their actions. The Academic Administration and teachers have the responsibility to:

• inform students of cheating and plagiarism as outlined below;

• teach all students what cheating and plagiarism are and inform them of the resulting consequences;

• determine whether cheating and/or plagiarism has occurred and take action according to the ACADEMIC PROCEDURE: Academic Integrity – Cheating & Plagiarism.

Cheating means any dishonest or deceptive practice relative to examinations, tests, quizzes, lab assignments, research papers or other forms of evaluation tasks. Cheating includes, but is not restricted to, making use of or being in possession of unauthorized material or devices and/or obtaining or providing unauthorized assistance in writing examinations, papers or any other evaluation task and submitting the same work in more than one course without the teacher's permission. It is incumbent upon the department through the teacher to ensure students are forewarned about unauthorized material, devices or practices that are not permitted.

Plagiarism is a form of cheating. It includes copying or paraphrasing (expressing the ideas of someone else in one's own words), of another person's work or the use of another person's work or ideas without acknowledgement of its source. Plagiarism can be from any source including books, magazines, electronic or photographic media or another student's paper or work.

Religious Holidays (IPESA Art 3.2.13 and 4.1.6)

Students who wish to miss class to observe a religious holiday, must inform the teacher in writing by the second day of class.

Student Rights & Responsibilities (IPESA Art 3.2.18)

It is the fundamental responsibility of each student to be a full and active participant in his or her education. Students have the responsibility to keep a copy of all assessed material returned to them and/or all digital work submitted to the teacher for at least four (4) weeks past the grade submission deadline of each individual course, in the event that they request a Final Grade Review (Refer to Article 8).

Changes to Course Evaluation Plan (Art.5.3)

Major changes (i.e. weighting, type and number of assessments) can be made to the course evaluation plan (on the course outline) due to exceptional circumstances. To do so, the teacher must ensure that any major changes to the evaluation plan made during the semester be forwarded (on paper or electronically) the AEC program coordinator for approval. All changes must have documented unanimous consent from the regularly attending students affected by the change(s) before submission. The approved major change will then be communicated to students on paper or electronically.