PROG20082 Mobile Device Application Principles

Professor
Paul Bonenfant **Office: E-200** **Contact: Use SLATE email** **Office Hours: TBD/Posted on SLATE**

Evaluation Plan

Assignments (Take home/In class)	30%
Project	15%
Midterm Exam	25%
Final Exam	30%
A weighted average of 50% on the Midterm and Final is required in order to the pass course	

Classroom Policies

SLATE	• Check SLATE frequently for any important announcements or discussions. • SLATE will be used heavily and all communication with me should be done through SLATE email.
Attendance	• Attendance is not mandatory, but is highly recommended. The only way to get comfortable with programming is to practice! You will be given plenty of opportunities to practice in class. • There may be in-class assignments and/or quizzes that must be done in class and count towards your final grade. It is your responsibility to catch up any missed material.
Behaviour	• Please be polite and consider others. • If you distract or disturb others, you may be asked to leave the room.
Talking	• No side conversations during lecture/theory portions of the class. If there is something you want to discuss, let me know and let's discuss it as a group! I highly encourage group discussions. There will be plenty of lab times during class where you can discuss material with your classmates.
Late Arrival	• Please take your seat quietly and refrain from talking with others. • It is your responsibility to catch up any missed material.

Assignments	• All hand-in work must conform to proper java programming style and documentation. Especially regarding naming conventions. • **Your source code should contain brief comments describing the functionality and the major components of each object and method.** ***"Any fool can write code that a computer can understand. Good programmers write code that humans can understand."*** **--- Martin Fowler, Refactoring: Improving the Design of Existing Code** • **Student full name MUST be included on each assignment** • Unless arrangements have been agreed upon beforehand, credit for late assignments will be reduced by 10% per day. Late assignments will only be accepted up to 3 days late after which a grade of 0 will be given. • All assigned work is to be completed without the collaboration of others unless the professor specifically states otherwise. ***Unauthorized collaboration will be treated as academic dishonesty under the College's Academic Dishonesty Policy***. Submissions will be electronically examined for similarity.
Absences due to Medical Conditions	• You must provide supporting documentation ***within 5 working days*** for any absences due to medical conditions (for assignments, tests, etc.)
Tests	• Tests are to be completed on the dates specified. In cases of extenuating circumstances, ***where suitable supporting documentation can be provided***, the Professor may make arrangements for alternative completion dates for individuals. All such requests must be made ***as soon as possible*** once the student is back at school.

Weekly calendar

Please note that **all dates are subject to change** depending on factors such as student experience, interest and ability as well as unforeseen cancelations due to weather, etc. Additional topics may be covered as time permits. Should there be insufficient time, certain topics may be de-emphasized.

Week	TOPICS & ASSESSMENT

Week 1	• Course intro
	  o High-level intro into app development
	  o Setting up the Development Environment and AVD
	• Overview of the Android Platform
	  o Different “flavours” of Android
	  o Folder structure for resources
	  o Supporting xml files
	• “Hello Android” application
	• Introduction to creating UI elements
	  o LinearLayout, RelativeLayout
	  o Basic Input Controls (Widgets)
	• Displaying user feedback using *Toast*

Week 2	• Testing and debugging apps
	• More Widgets
	  o RadioButtons, RadioGroup
	  o ToggleButtons
	  o …
	• Introduction to the Spinner control
	• Introduction to the ListView control and ListView adapters
	  o

Week 3	• Activity lifecycle
	  o onCreate, onDestroy
	  o onStart, onStop
	  o onResume, onPause
	• Effects of orientation changes in Android
	• Creating different layout files to handle orientation changes

Week 4	• Introduction to Menus • Shared Preferences • Preference Dialogs

Week 5	• MVC – Model View Controller schema for Android Application development.
	• Dialogs
	• Intents
	  o Implicit
	  o Explicit

Week	TOPICS & ASSESSMENT
Week 6	• Multiple Activities • Launching an Activity for result • Passing complex data types between components o Parcelable Interface
Week 7	**Midterm Test**
	Break Week
Week 8	• File I/O (internal storage, external storage) • Parsing JSON data structures • Asynchronous execution
Week 9	• Connectivity to the internet/cloud • Introduction to Fragments
Week 10	• Introduction to SQLite Databases
Week 11	• Services in Android • Notifications
Week 12	• Location Based Services • Multimedia
Week 13	• Developing Secure Applications
Week 14	**FINAL EXAM**