THOMPSON RIVERS UNIVERSITY

Course Outline

Department of Computing Science
Faculty of Science

Mobile App Development 1 - COMP 2160 – 01
Fall 2015

Instructor: Phone/Voice Mail: Office: E-Mail: Office Hours:

CALENDAR DESCRIPTION

Students learn how to develop applications for mobile devices, including smartphones and tablets. Students are introduced to the survey of current mobile platforms, mobile application development environments, mobile device input methods, as well as developing applications for two popular mobile platforms. Students will design and build a variety of Apps throughout the course to reinforce learning and to develop real competency.

PREREQUISITES

- 2nd-year standing in the Computing Science program.

EDUCATIONAL OBJECTIVES/OUTCOMES

Upon successful completion of the course, the student will demonstrate the ability to:

1. Explain mobile devices, including their capabilities and limitations.
2. Use current mobile platforms and their architectures.
3. Develop mobile applications on a popular mobile platform.
4. Evaluate development with another mobile platform.

TEXTS/MATERIALS

The following textbook is optional for this course:

- Wei-Meng Lee, Beginning Android™ 4 Application Development, 2012 by John Wiley & Sons, Inc., Indianapolis, Indiana, ISBN: 978-1-118-19954-1

SYLLABUS - Lecture & Lab Topics:

Course Topics		Duration
1. Mobile Phones and Network Technologies	……	1 week
2. Introduction to Android Programming	……	
3. Android Application Frameworks	……	
4. Building a Simple User Interface	……	1 week
5. Activities and Intents	……	2 week
6. Case Study: Calculator App. – Design Challenges	……	1 week
7. Services	……	1 week
8. Broadcast Receivers	……	1 week
9. Data Persistence	……	1 week
10. Processes and Threads	……	1 week
11. Asynchronous Tasks	……	
12. Internet Resources	……	1 week
13. App Publishing and Business Models	……	1 week
14. Introduction to iOS platform	……	1 week
15. Objective-C	……	
16. Application Development in iOS	……	1 week
17. Building a Simple User Interface in iOS	……	

Lab Topics		Duration
1. Getting Started with Android	……	1 week
2. Building a Simple User Interface	……	1 week
3. Building a Simple Calculator	……	1 week
4. Using Services	……	1 week
5. Using Preferences	……	1 week
6. Handling Files	……	1 week
7. Using AsyncTask class	……	1 week
8. Getting Started with XCode	……	1 week
9. User Interfaces in iOS	……	1 week
10. iOS Application Development	……	1 week
11. Course Project	……	3 weeks

ACM / IEEE Knowledge Area Coverage

IEEE Knowledge Areas that contain topics and learning outcomes covered in the course

Knowledge Area	Total Hours of Coverage
PBD/Platform-Based Development/Introduction	4
PBD/Mobile Platforms	35

IEEE Body of Knowledge coverage

KA	Knowledge Unit	Topics Covered	T1 hours	T2 hours	Elective hours
PBD	Platform-Based Development/Introduction	[Elective] • Overview of platforms (e.g., Web, Mobile, Game, Industrial) • Programming via platform-specific APIs • Overview of Platform Languages (e.g., Objective C, HTML5) • Programming under platform constraints	0	0	4
PBD	Mobile Platforms	[Elective] • Mobile programming languages • Challenges with mobility and wireless communication • Location-aware applications • Performance / power tradeoffs • Mobile platform constraints • Emerging technologies	0	0	32