

UNIVERSITY OF REGINA
Department of Computer Science

CS 855 – Mobile Computing
Fall 2018

Instructor: **Dr. Orland Hoeber**
Lectures: **T/Th 8:30 – 9:45 AM (ED 106.2)**
Webpage: **<http://www.cs.uregina.ca/~hoeber/teaching/cs455/2018F/>**
Email: **orland.hoeber@uregina.ca**

Office Hours: **W 9:00 AM – 10:30 AM (other times by appointment only)**
Office: **CW 308.25**

Calendar Description

Mobile Computing focuses on conducting research in the design, development, and evaluation of software in a networked mobile environment. The primary topics to be covered in the course include network computing, graphics programming, human-computer interaction, and evaluation methods, all focused on the challenges and opportunities afforded by modern mobile computing devices.

Hardware and Lab

This particular offering of the course will use the iPhone/iPod Touch/iPad as the particular mobile platform. All programming tasks for the assignments and project will be done in Swift and will be written for iOS 11. This mobile platform will allow us to take advantage of advanced sensors, networking, graphics, and multi-touch interaction. A small number of iPod Touch devices may be available on a sign-out basis for testing of assignments and project work.

Since the software development kit will only run on a Mac OS X platform, a shared laboratory (UDML – CL 135) will be available for students to use who do not have access to a personal Mac computer.

There will be three assigned times in which students in this course will have exclusive access to the lab:

- M 3:00 – 6:00 PM (open work session)
- W 3:00 – 6:00 PM (tutorial/help session)
- F 9:00 – 12:00 noon (tutorial/help session)

Textbook & Readings

Matt Neuburg, iOS 11 Programming Fundamentals with Swift, O'Reilly Media Inc., 2018
ISBN: 978-1-491-99931-8

R. Harison, D. Flood, and D. Duce, Usability of mobile applications: literature review and rationale for a new usability model, Journal of Interaction Science, 1:1, 2013.

[continued on next page]

Swift Documentation

<https://swift.org/documentation/>

Readings from the iOS Developer Library

<https://developer.apple.com/documentation>

Evaluation

The final grade in the course will be determined as follows:

Assignments	2 x 10%	20%
Short Papers	2 x 10%	20%
Project Milestones	5/5/5/25%	40%
Final Exam	(Dec 18)	20%
Total		100%

* In order to pass the course, you must pass the final exam (failure to pass the final exam may result in your final exam grade being assigned as your final course grade). Your final mark may be adjusted by +/- 5%, at the instructor's discretion.

Course Schedule & Topics (Tentative)

Topic	Date	Topics
0	September 6	Syllabus & Introduction
1	September 11/13	Fundamentals of Swift Readings: Chapters 1-5 Project Groups (Wed Sep 12)
2	September 18/20	Xcode and iOS Programing Readings: Chapters 6-9 Readings: Start Developing iOS Apps (Swift) Project Proposal (Wed Sep 19)
3	September 25/27	Anatomy of an iOS App Readings: App Programming Guide for iOS
4	October 2/4	The User Experience & Design Readings: iOS Human Interface Guidelines Assignment 1 Due (Fri Oct 5)
5	October 9/11	Cocoa & Touch Readings: Event Handling Guide for iOS Readings: View Programming Guide for iOS Short Paper 1 Due (Fri Oct 12)

Topic	Date	Topics
6	October 16/18	Sensor Programming Readings: CoreLocation & MapKit Readings: CoreMotion Project Design (Wed Oct 17)
7	October 23/25	Network Programming Readings: UIWebView Readings: NSURL & NSURLConnection Assignment 2 Due (Fri Oct 26)
8	October 30/November 1	Advanced Networking Readings: Grand Central Dispatch Readings: Push Notifications
	November 6/8	Industry Guest Lecture (Nov 6) Fall Break (Nov 7 - 12)
	November 13/15	Project Self-Help (No Lectures Nov 13/15) Project Update (Fri Nov 16)
9	November 20/22	Persistent Data Storage Readings: File System Programming Guide Readings: Archives and Serializations Programming Guide Short Paper 2 Due (Fri Nov 23)
10	November 27/29	Evaluation Methods Readings: Usability of Mobile Applications
	December 4/6	Project Demos Project Submission (Thu Dec 6)

The **Final Exam** has been scheduled for December 18 from 9:00 - 12:00 noon. The exam will be comprehensive, covering the entire breadth of topics covered in the course.

Lectures and Lecture Notes

Lectures will be held twice per week: T/Th 8:30 - 9:45 AM. All lecture notes and assignments will be posted on UR Courses. The lecture notes should not be used as an alternative to attending the lectures. It is expected that students will attend the lectures, listen to the explanations and discussions, and take notes about the important information.

Assignments & Project

All assignments and project milestones are due at 11:55 PM on the specified dates, and must be submitted electronically via UR Courses. Late submissions will not be accepted, but the grades for missing assignments may be moved to the final exam under exceptional circumstances, and with appropriate documentation.

Grades

All grades will be assigned according to the Graduate Calendar – Grading System:

- 95–100: An exceptional performance.
- 90–94: An outstanding performance.
- 85–89: An excellent performance.
- 80–84: A very good performance.
- 75–79: A good or satisfactory performance.
- 70–74: A minimally acceptable performance or marginal pass.
- 0–69: An unacceptable or failing performance.

Other Notes and Information

1. The best way to contact me is via email.
2. You should send class-related email using your University of Regina account only. This will ensure that spam filtering does not keep your email from getting to me.
3. You should check UR Courses and your University email on a regular basis. Important announcements for this class will be made on UR Courses. Other announcements and direct communication will be via email.
4. Students are expected to attend the lectures. If you must skip a lecture, it is your responsibility to find out from classmates what you missed.
5. Although group discussions and study groups are encouraged, all assignments and project work are to be completed individually. Group discussions should be focused on general concepts, ideas, and lecture materials, and not the specifics of any assignment.
6. Group work is permitted in the project, but must be limited to include only those in your documented group.
7. Plagiarism and other forms of academic misconduct will not be tolerated. It is up to each student to understand the rules and regulations pertaining to this (Graduate Calendar – Policies and Procedures of the University – Academic Conduct and Misconduct). Be aware that not only is the act of copying the work of another considered plagiarism, so is the act of allowing another to copy your work.
8. The Graduate Calendar is available here:
<https://www.uregina.ca/gradstudies/current-students/grad-calendar/index.html>