UNIVERSITY OF REGINA
Department of Computer Science

CS 490CX – Mobile Computing
Winter 2013

Instructor: **Dr. Orland Hoeber**
Lectures: **T/Th 8:30 – 9:45 AM (CL 410)**
Webpage: **http://www.cs.uregina.ca/~hoeber/teaching/cs490CX/**
Email: **orland.hoeber@uregina.ca**

Office Hours: **T/Th: 10:00 – 12:00 PM (other times by appointment only)**
Office: **CW 308.25**
Phone: **306-585-4598**

Labs: **T 1:30 – 3:20 PM (CL 135)** or
W 11:30 – 1:20 PM (CL 135)

Course Prerequisites

CS 335 and one of CS 305, CS 315, or CS 325

Course Objectives

Mobile Computing focuses on the design and implementation of software in a networked mobile environment. The primary topics to be covered in the course include software development practices, network computing, graphics programming, and human-computer interaction, 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 Objective-C and will be written for iOS 6. 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. Regularly scheduled labs will be run as tutorials and help sessions. Attendance will be taken at the labs and may be considered when making adjustments to the final grades for the course.

Textbook

Neuburg, M. Programming iOS 5, 2nd Edition, O'Reilly Media, Inc., 2012 (ISBN-13: 978-1-449-31934-2)

Evaluation

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

Assignments	4 x 10%	40%
Milestone-Based Project	5/5/5/25%	40%
Final Exam		20%
Total		**100%**

* In order to pass the course, you must pass the final exam. Your final mark may be adjusted by +/- 5%, at the instructor's discretion.

Course Schedule & Topics (Tentative)

Week	Date	Topics
1	January 8/10	• Readings: Ch 1 – 5 • Fundamentals of Objective-C • Lab: no lab (start reading the textbook)
2	January 15/17	• Readings: Ch 6 – 7 • Anatomy of an iOS Project • Lab: Xcode, Objective-C, and Debugging • **Project Milestone 1 (Jan 17)**
3	January 22/24	• Readings: Ch 10 – 13 • Cocoa Fundamentals • Lab: Objective-C Objects and Messages • **Assignment 1 (Jan 24)**
4	January 29/31	• Readings: Ch 14, 16 • Views and Layers • Lab: Interface Builder
5	February 5/7	• Readings: Ch 18 • Touches • Lab: Touch Events and Multiple View Layers • **Project Milestone 2 (Feb 7)**
6	February 12/14	• Readings: Ch 19 – 26 (selected sections) • Advanced Views • Lab: Scrollable Table View • **Assignment 2 (Feb 14)**

Week	Date	Topics
7	February 19/21	• Midterm Break
8	February 26/28	• Readings: Ch 15 • Graphics and Drawing • Lab: Core Graphics
9	March 5/7	• Readings: Ch 17 • Animation • Lab: Core Animation • **Project Milestone 3 (Mar 7)**
10	March 12/14	• Readings: Ch 37 • Basic Networking • Lab: Device Connection • **Assignment 3 (Mar 14)**
11	March 19/21	• Network Programming • Lab: Device Communication
12	March 26/28	• Readings: Ch 35 • Sensor Programming • Lab: Accelerometer
13	April 2/4	• Mobile Devices & The User Experience • Lab: Maps/GPS • **Assignment 4 (Apr 4)**
14	April 9/11	• Research Topics in Mobile Computing • Demos • Review • **Project Milestone 4 (Apr 11)**

The **Final Exam** has been scheduled for April 16, 2013 from 9:00 – 12:00 PM. 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 – 9:50 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

All assignments and project milestones are due prior to the beginning of the class 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 Undergraduate Calendar, Section 5.9: Grading System and Descriptions:

90–100: An outstanding performance.
80–89: Very good performance.
70–79: Above average performance.
60–69: A generally satisfactory and intellectually adequate performance.
50–59: A barely acceptable performance.
0–49: An unacceptable 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 both 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. The labs will be run as tutorials and help sessions. If you are having any difficulties with your assignments or project, you should attend the lab and ask the lab instructor for help. You can also seek help from the course instructor during office hours or via appointment.
6. Although group discussions and study groups are encouraged, all lab work and assignments are to be completed individually. Group discussions should be focused on general concepts, ideas, and lecture materials, and not the specifics of any assignment or lab.
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 (Section 5.13 in the Undergraduate Calendar). 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.