

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
Department of Computer Science

Computer Science 4768 – Software Development for Mobile Devices
Fall Semester 2009

Lectures: T/TH 9:00 AM – 10:15 AM (EN-1051)
Lab: W 11:00 AM – 1:00 PM (EN-2032)

Web: <http://www.cs.mun.ca/~hoeber/teaching/cs4768/>

Instructors:	Dr. Orland Hoeber	ER 6037	hoeber@cs.mun.ca
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Office Hours: Dr. Hoeber (T/TH 10:30–12:00 PM)
Dr. Gong (T/TH 10:30–12:00 PM)
Dr. Chen (F 3:00–5:00 PM)
(Other times by appointment only)

Course Prerequisite

COMP 2760, COMP 3715, and COMP 3716

Course Objectives

Software Development for Mobile Devices focuses on the design and implementation of software in a mobile networking environment. The primary topics to be covered in this course include software engineering, network computing, graphics programming, and human-computer interaction for mobile devices. A modern mobile device with advanced networking and graphic features, including multi-touch interaction and motion sensors will be used as the primary platform for development in this course.

Hardware and Lab

The iPhone/iPod Touch will be used as the hardware platform in COMP 4768. All assignments and projects will be expected to run on this platform. The software development kit will only run on the Mac OS X platform. As such, a shared laboratory (EN-2032) will be available for students to use if they do not have access to a Mac computer. The lab times (W 11:00 AM – 1:00 PM) will be conducted as help sessions for the lab tasks and assignments. A small number of iPod Touch devices will be made available on a sign-out basis for testing purposes.

Textbook

Material from the iPhone Developer University Program and the iPhone Reference Library will be used in this course. Specific readings will be assigned during class. For more information, visit:

<http://developer.apple.com/iphone/library/navigation/index.html>

Evaluation

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

Assignments	3 x 10%	30%
Milestone-Based Project		40%
Final Exam	TBA	30%
Total		100%

***You must achieve a passing grade in the *project* and *final exam* to pass the class.**

Format

Lectures, three hours per week (T/Th 9:00 AM – 10:15 AM; EN-1052). All lecture notes and assignments will be posted on Desire2Learn (<https://online.mun.ca/>).

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Course Schedule & Topics (Tentative)

Week	Date	Topics
1	September 10 (Drs. Chen & Gong)	<ul style="list-style-type: none"> Course Introduction/Overview
2	September 15/17 (Drs. Gong & Chen)	<ul style="list-style-type: none"> Xcode IDE and iPhone Simulator Objective-C programming Lab: Xcode and Debugging
3	September 22/24 (Dr. Hoerber)	<ul style="list-style-type: none"> Mobile Devices & The User Experience Designing Applications The Anatomy of an iPhone Application Lab: Objective-C Programming Project Milestone 1 is Due (Sep 24)
4	September 29/October 1 (Dr. Hoerber)	<ul style="list-style-type: none"> Interface Builder Lab: Interface Builder
5	October 6/8 (Dr. Hoerber)	<ul style="list-style-type: none"> Core Data Human Interface Guidelines Lab: Core Data App

Week	Date	Topics
6	October 13/15 (Dr. Hoeber)	<ul style="list-style-type: none"> • Fall Semester Break (Oct 12–13) • Multi-Touch Programming • Lab: Device Configuration and App Installation • Project Milestone 2 is Due (Oct 15)
7	October 20/22 (Drs. Hoeber & Gong)	<ul style="list-style-type: none"> • Motion Sensor Programming • Introduction to OpenGL ES • Lab: Multi-Touch and Motion Sensing • Assignment 1 is Due (Oct 22)
8	October 27/29 (Dr. Gong)	<ul style="list-style-type: none"> • Geometric Primitives • 2D Transformations and Animation • Lab: Flick
9	November 3/5 (Dr. Gong)	<ul style="list-style-type: none"> • 3D Projections and Transformations • Rendering and Lighting • Lab: Collisions • Project Milestone 3 is Due (Nov 5)
10	November 10/12 (Drs. Gong & Chen)	<ul style="list-style-type: none"> • Texture Mapping • Socket Programming • Lab: Help Session • Assignment 2 is Due (Nov 12)
11	November 17/19 (Dr. Chen)	<ul style="list-style-type: none"> • WebView • Web Services • Lab: Message Passing via Sockets
12	November 24/26 (Dr. Chen)	<ul style="list-style-type: none"> • Core Location • Map Kit • Lab: Mini-Browser • Project Milestone 4 is Due (Nov 26)
13	December 1/3 (Dr. Chen)	<ul style="list-style-type: none"> • WiFi/Bluetooth • Lab: Help Session • Project Presentation and Demo (Dec 3) • Assignment 3 is Due (Dec 3)
	December 8	<ul style="list-style-type: none"> • Final Project Report & Source Code is Due (Dec 8)

The Office of the Registrar will schedule the **Final Exam** between Wednesday, December 9 and Friday, December 18, 2009. The exam will be comprehensive, covering the breadth of material discussed in the course.

All assignments are due prior to the beginning of the class on the specified dates. Late submissions will not be accepted. All assignment materials must be submitted online via Desire2Learn (<https://online.mun.ca/>). Physical submissions are not required.

All grades will be assigned according to the 2009/2010 University Calendar (Section 5.8 under General Regulations).

- "A" (80 – 100%) indicates excellent performance with clear evidence of:
 - comprehensive knowledge of the subject matter and principles treated in the course,
 - a high degree of originality and independence of thought,
 - a superior ability to organize and analyze ideas, and
 - an outstanding ability to communicate.
- "B" (65 – 79%) indicates good performance with evidence of:
 - substantial knowledge of the subject matter,
 - a moderate degree of originality and independence of thought,
 - a good ability to organize and analyze ideas, and
 - an ability to communicate clearly and fluently.
- "C" (55 – 64%) indicates satisfactory performance with evidence of:
 - an acceptable grasp of the subject matter,
 - some ability to organize and analyze ideas, and
 - an ability to communicate adequately.
- "D" (50 – 54%) indicates minimally acceptable performance with evidence of:
 - rudimentary knowledge of the subject matter,
 - some evidence that organizational and analytical skills have been developed, but with significant weaknesses in some areas, and
 - a significant weakness in the ability to communicate.
- "F" (below 50%) indicates failing performance with evidence of:
 - an inadequate knowledge of the subject matter,
 - failure to complete required work,
 - an inability to organize and analyze ideas, and
 - an inability to communicate.