



iPhone Application Development

ITP 499 (2 Units)

Spring 2009

Objective	This course is an introduction to developing applications for iPhones and iPod Touch devices. We will go through the process of building an iPhone application from start to finish using the iPhone SDK (Software Development Kit). In lecture sessions, you will learn the basics of the Objective-C programming language, how to design iPhone interfaces visually in Interface Builder, how to use the libraries to build applications that have the iPhone look and feel, how to use table views, how to design and handle user input, and other aspects as time permits. During the lab sessions, we will start by running and then modifying sample applications using the Xcode IDE (Integrated Development Environment). Then we, as a class, will design and build an iPhone application.
Concepts	Object-oriented programming, Objective-C
Prerequisites/ Recommended Preparation	ITP101, ITP109 or Basic Computer Knowledge
Instructor	Trina Gregory
Contacting the Instructor	Email: trina.gregory@usc.edu
Office Hours	TBD
Lab Assistants	TBD
Lecture	1.5 hours/week
Lab	1.5 hours/week
Course Structure	TBD
Required Textbooks	iPhone SDK Development by Bill Dudney, Chris Adamson, and Marcel Molina
Optional Books	The iPhone Developer's Cookbook: Building Applications with the iPhone SDK (Developer's Library) by Erica Sadun
Web Site	All information including lecture notes, assignments and references will be listed on Blackboard (http://blackboard.usc.edu).

Grading The following point-structure will be used in determining the grade for the course. Final grade will be based upon the total points received, the highest total in the class, and the average of the class.

Class Participation & Attendance	5%
Weekly Assignments	35%
Midterm	30%
<u>Individual Final Project</u>	<u>30%</u>
TOTAL POSSIBLE	100%

Grading scale:

A	100-93
A-	92-90
B+	89-87
B	86-83
B-	82-80
C+	79-77
C	76-73
C-	72-70
D+	69-67
D	66-65
F	64 or below

Policies Exams: Exams cover material from the reading assignments, lectures, and lab projects. The exams are both closed book and closed notes. The exams will cover the material presented up to the date of the exam. Make-up policy for exams: In order to make up for a missed exam, the student must provide a satisfactory reason along with proper documentation. Usually make-ups are allowed only under extraordinary circumstances.

Assignments: It is your responsibility to turn in your assignments on, or before, the deadlines as set by the instructor.

Late assignments: Late submission of assignments will lead to loss of points. No assignments will be accepted after two weeks beyond the original due date.

Before logging off a computer, students must ensure that they have emailed or saved projects created during the class or lab session. Any work saved to the computer will be erased after restarting the computer. ITP is not responsible for any work lost.

ITP offers Open Lab use for all students enrolled in ITP classes. These open labs are held beginning the second week of classes through the last week of classes. Please contact your instructor for specific times and days for the current semester.

Academic Integrity

The use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behavior resulting from the nervous tension accompanying examinations. When the professor determines that a violation has occurred, appropriate action, as determined by the instructor, will be taken.

Although working together is encouraged, all work claimed as yours must in fact be your own effort. Students who plagiarize the work of other students will receive zero points and possibly be referred to Student Judicial Affairs and Community Standards (SJACS).

All students should read, understand, and abide by the University Student Conduct Code listed in SCampus, and available at:

<http://www.usc.edu/student-affairs/SJACS/nonacademicreview.html>

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

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Course Outline

Week 1 – Introduction

- Course overview
- Overview of iPhone

Lab: Intro to iPhone

Week 2 – Intro to iPhone OS

- iPhone OS Technology Layers
- Intro to Cocoa Fundamentals
- Platform Limitations

Lab: HelloWorld

Week 3 – Tools for iPhone OS Development

- Xcode IDE
- Interface Builder
- Instruments
- Graphics

Lab: HelloWorld

Week 4 – Learning Objective-C

- Classes
- Methods
- Strings

Lab: BubbleLevel

Week 5 – More Objective-C

- Properties
- Protocols and Delegates

Lab: CrashLanding

Week 6 – Creating an iPhone Application

- Initializing the application
- Displaying a window
- Drawing custom content

Lab: UICatalog

Week 7 – Handling Touch Events

Lab: Scrolling

Week 8 – Performing Animations

Lab: MoveMe

Week 9 – Loading Applications onto an iPod

Lab: SimpleDrillDown

Week 10 – Tracking Orientation and Motion Using the Accelerometers

Lab: AccelerometerGraph

Week 11 – Accessing the User's Contacts

Lab: NavBar

Week 12 – Getting the User's Current Location

Lab: LocateMe

Week 13 – Playing Audio and Video

Lab: SpeakHere

Week 14 – Connect to the Internet and Web Services

Lab: Reachability

Week 15 – Signing Code for iPhone Development

Lab: CryptoExercise

Week 16 – Final Project Due