

# Course Description and Syllabus

## iPhone and iPad SDK Programming

### **Course Title**

iPhone and iPad SDK Programming

<http://www.certifiednetworks.com/classes/iphone/>

### **Meeting Schedule**

Wednesdays, 6:30pm-10:00pm

July 6th, 2016 through September 7th, 2016

10 meetings

Westwood: 213 Extension Lindbrook Center

The instructor will be in class and ready to answer questions by 6:00pm.

Students may send the instructor email with questions, and may send a zip file of any project for review or debugging. Whenever possible, questions will be used to build demonstrations to help other students.

### **Instructor Information**

David Henson

Certified Networks, Inc.

[dhenson@certifiednetworks.com](mailto:dhenson@certifiednetworks.com)

### **Prerequisites**

Knowledge of at least one object-oriented programming language: C/C++, C#, Java, or Objective-C. This class will teach iPhone SDK Programming building on object oriented programming concepts used in other programming languages. All assignments will require the use of an Intel-based Macintosh computer running the latest version of the Mac OS X operating system. To test applications on a real iPhone or iPod Touch device will require signing up with the Apple iPhone Developer Program.

### **Course Overview**

This class teaches the fundamentals and provides a broad perspective of the iPhone SDK platform. It begins with an overview of the Objective-C language and progresses into the details of the UIKit, as well as several other frameworks essential for development on the iPhone and iPad. It will also cover graphics, animation, technologies for game development, data files, database topics, and iPhone unique characteristics such as the accelerometer, magnetometer (compass), and camera. There will be lectures, programming assignments and reading assignments throughout the course.

## **Course Objectives**

After the completion of this course, the successful student will be able to:

- Create iPhone and iPad SDK programs from scratch
- Explain how memory management works on the iPhone
- Use iPhone's animation capabilities in programs
- Build multimedia support in applications
- Use standard controls and views such as buttons, switches, sliders, tableviews
- Store and retrieve data from the iPhone's file system
- Build location-aware applications
- Test applications on the iPhone and distribute applications to other testers
- Create applications suitable for uploading to Apple's AppStore for distribution and sale
- Understand the latest production updates to the latest version of iOS

## **Weekly Topics**

Here are the general topics for each week

1. Platform Overview and Objective-C/Swift
2. Cocoa Touch Foundation and Tools
3. Windows, Views, and View Controllers
4. UIControls and ViewController Containers
5. TableView and Specialized Controllers
6. Quartz (2D) Graphics and Events
7. Core Animation
8. Multimedia
9. Concurrency and Multi-threading, Data Files and Database, Interacting with web servers
10. Core Location, Mapping, and Camera, Over The Air (OTA) App Download, Analytics

## **Learning Materials**

There is no required textbook for this course. The primary source material for the course is Apple's documentation. You will learn how to access the documentation, search for information, and learn how to use the documentation built-in to XCode.

A number of recommendations for books on iPhone and iPad SDK programming will be given as needed.

Wherever possible, screen capture videos will be provided to demonstrate the concepts covered in class.

**Homework Assignments**

Each week there will a homework assignment targeted for 2 to 4 hours of effort. Many students find that extra time and effort placed into the assignments are a key element to learning in the class.

**Grading**

Any student that attends and participates in class and turns in the homework assignments will receive an A in the class.