# **MOBILE APP DEVELOPMENT**

# IOS300: Introduction to iPhone and iPad Application Development using iOS9 and Xcode 7

Building successful iPhone and iPad applications requires that developers understand the requirements from Apple for designing and building applications, as well as how to use the technologies involved. This course covers all topics from design, to development and deployment. This course provides lecture and hands-on training with the tools and Objective C to ensure students are able to create applications that adhere to Apple guidelines. Classroom topics can be customized to your organization.

### **AUDIENCE**

This course is intended for professional developers who want to be begin creating applications for iPhone and iPad.

### **PREREQUISITES**

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Before attending this course, students must be an experienced software developer. Experience with object-oriented programming is helpful but not required.

### WHAT YOU WILL LEARN

- » Understand the background and overall structure of iOS
- » How to navigate and use the tools of the iOS SDK
- » Running Cocoa Touch Applications in a simulator
- » Understand structure of Objective-C 2.0
- » Navigate and understand Xcode including its integrated Interface Builder
- » Respond to touch events
- » Set up and manage iOS controls such as text fields, buttons, and pickers.
- » Work with table views, navigation controllers, and other UI components
- » Persist user data and application state



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(course outline on back side)



## **COURSE OUTLINE**

#### IOS300: Introduction to iPhone and iPad Application Development using iOS9 and Xcode 7

#### 1. Getting Started with iOS development

#### Types of Apps

- » iPhone, iPad, iPod Touch, Universal
- Immersive Apps (Games, custom interfaces)
- » Productivity Apps
- » Utility Apps

#### Strategies in Designing Apps

- » Researching competition
- » Pricing Methods
- » Advertising

#### iOS Human Interface Guidelines

- » Overview
- » Highlights of HIG

Setting Up Your Environment

- » Registering with Apple
- » Join an iOS Developer Program
- » Downloading the SDK

#### 2. Anatomy of a Project

Xcode - the IDE for Creating Apps

- » Create New Project
- » Single View
- » Tabbed Application
- » Utility Application
- » Edit, Maintain, Prepare Files
- » Window Panes, View, Library, Inspector Toolbar
- » Designing the User Interface
- » Connecting objects

#### iOS Simulator

- » Run applications without device
- » Test UI
- » Hardware Interactions
- » Shake, rotate left/right
- » Home, Lock, tv out
- » Gestures

#### Debugger

- » Running applications
- » Breakpoints

#### **3. Programming Basics**

Objective-C

- » Syntax
- » Objects
- » Classes

- » Header and implementation files
- » #import, @implementation, @synthesize
- » @property
- » getters / setters
- » alloc, init
- » Instances
- » Sending Messages / calling methods

#### 4. Memory Management

#### Memory Management

- » Overview
- » Reference Counting
- » Release

#### 5. Design Patterns

#### Cocoa Touch

- **Exploring Frameworks**
- » UIKit framework
- » Foundation Framework, NS-prefix
- » CL-prefix

View controller

Delegation

MVC

#### 6. View Controllers and Views

Configuring the View

- » Add UI Elements
- » Add Actions
- » Create and Connect Outlets using Xcode and by code

Implement the View Controller

- » Implement methods
- » Configure view controller as delegate

#### 7. Working with Data

#### Data Options

- » Property Lists
- » SQLite
- » Core Data
- » Object Archives
- » iCloud

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#### Table Views

- » Plain and Grouped Tables
- » Populating with Data

#### 8. Navigation Controllers

#### Approaches

- » Tab Bars
- » Drill down

#### 9. Camera

#### Camera

- » Checking Device
- » Testing with Simulator

#### **10. Core Location and Map**

#### Core Location

- » Latitude and Longitude
- » GPS
- » Cell Tower triangulation
- » Wi-Fi positioning service

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» Displays map

**11.Web Services** 

Fetching Data

» NSURLRequest

» Target Options

» Setting up logic

**13. Distributing Applications** 

» Publish for Testing

» Publish to App Store

» NSURLConnection

Cocoa Touch Unit Testing Bundle

» NSURL

12. Unit Testing

» Schemes

Tasks

» Network connection