



iOS Programming for iPhone® and iPad® Applications Using Objective-C

Duration: 35 hours

Prerequisites: Prior programming experience in an object-oriented language.

Course Description: Participants in this hands-on course will learn about and gain practice developing iOS applications for iPhone and iPad devices. Attendees will learn all the basics needed for iOS development, from installation of the Xcode editor to the Apple approval process. The Objective-C language is presented and used in hands on exercises to learn how it interacts with the hardware systems.

In hands on exercises, students will use built-in data views as well as create custom screens for data entry and presentation. Students will learn to follow Apple's design recommendations to provide clean interfaces that appropriately size to various devices and screens.

The course includes coverage of scheduled background execution to allow code to be run when the app isn't active and to schedule alerts to draw attention back to the app.

Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency. Students will create apps from the ground up, demonstrating the features of Objective-C and serving as an introduction to developing apps for release to the App Store.

Students Will Learn

- ➔ iOS Overview
- ➔ Using Xcode
- ➔ Objective-C Language Fundamentals
- ➔ Flow Control, Loops, Functions and Main
- ➔ Heap, Stack, Pointers, and the Preprocessor
- ➔ Object Oriented Programming with Objective-C
- ➔ Objective-C Methods and ARC
- ➔ Building iDevice Single View Applications with Xcode
- ➔ MVC Architectures
- ➔ Protocols/Delegates, Notifications and KVC/KVO
- ➔ Forms, Views and ViewControllers
- ➔ NSObject and other Foundation Classes
- ➔ Dynamic Typing vs Static Typing and Introspection
- ➔ Singleton, Lazy Instantiation and Other Philosophies
- ➔ Exception Handling, Logging and Debugging
- ➔ Working with Threads
- ➔ System Events and Background Execution

Overview

Macintosh Orientation

- Versions of iOS and Supported Devices

Objective-C

- Fundamental Syntax

- Overview of the New OS X
- Command Line Interaction
- Apple Approval Process

- Object Oriented Programming Support
- Using Dynamic Binding
- Using ARC
- Writing Code for Hardware Interaction
- Data Types and Structs
- Flow Control
- Pointers, Heap and Stack

Xcode IDE Installation and Use

- Installing and Updating Xcode
- Code Development and Tracking
- Debugging Utilities
- Application Navigation Tools

MVC Architecture

- Model-View-Controller Development Paradigm
- Application Design Process

SOA Application Design Overview

- Service Oriented Architecture
- Web Services Overview
- Apple Push Notification Service (APNs)

Dynamic Typing

- Understanding the id Data Type
- Analyzing Objects for Type Safety
- Testing Objects for Function Support

Custom View Design and Layout

- Designing Views
- Apple's UI Design Standards
- Utilizing Controls
- Custom View Transitions and Animations

Blocks

- Purpose and Syntax of Blocks
- Block Animation Methods
- Developing Multithreaded Blocks

NeXTStep Object Support

- Using the NeXTStep Data Types
 - NSDate, NSPoint, NSSize, NSString
- Using the NeXTStep Collection Objects
 - NSSet and NSMutableSet
 - NSArray and NSMutableArray
 - NSDictionary and NSMutableDictionary

System Event Handling

- Recognizing Apps Moving to Background
- Detecting and Solving Low Memory Events
- Handling Custom Events and Exceptions

Threading Support

- Creating Threads
- Using Threads for Asynchronous Processing

Basic Design Patterns Used in iOS

- Singleton Pattern
- Lazy Instantiation
- Protocol/Delegate Patterns

Views and View Controllers

- Using Generic Views and View Controllers
- Using Specific Purpose Views
 - Text View
 - Web View
 - Map View
 - Table and Table Cell View

Related Bootcamp

| Track | Duration | Price |
|------------------------------|----------------|---------|
| Mobile Application Developer | 2-course track | \$2,400 |
| | 3-course track | \$3,600 |

iPad® and iPhone® are trademarks of Apple Inc., registered in the U.S. and other countries.

Contact Us

Address: 1 Village Square, Suite 3 Chelmsford, MA 01824

Phone: 978.250.4983

Mon - Thur: 9 am - 5 pm EST

Fri: 9 am - 4 pm EST

E-mail: info@developer-bootcamp.com

Copyright© 2018 Developer Bootcamp