# iOS Essentials with Swift

## Course Overview

If you're new to iOS development and want to write applications that run on the iPhone or iPad, this course is just what you need. In just seven days, we'll have you building your first iOS application using Swift.

## Who should take this course

- Android or web programmers who want to learn iOS programming
- iOS programmers who want to brush up on the latest iOS trends and technologies
- Prior experience in either a procedural programming language (such as C, Pascal, VB, or PHP) or another object-oriented platform (such as Java or C#) is strongly recommended.

## Syllabus

- Optionals
  - Optional Types, binding, and chaining
- Collections
  - Array, Dictionary, and Set
- Functions and Closures
  - Syntax, best practices, and hands on examples
- Enumerations
  - Raw values, associated values, switching on enumerations
- Structs and Classes
  - Similarities, differences, and use cases of these
- Properties

  - Declaring properties, setters and getters, computed vs. stored, property observers

- Initialization
  - Working with init and deinit

- Value vs. Reference Types
  - Understand the similarities and differences between each, know when to use each and how manage them correctly

- Error Handling
  - Use Swift's native Error Handling mechanism to write elegant and safe code

- Protocols
  - Create and conform to protocols that define the rules of engagement for a conforming class

- Extensions
  - Create extensions that modify and add behavior to existing types

- Generics
  - Demonstrate the power and flexibility of generics by creating a new collection type

- Protocol Extensions
  - Use protocols to define interfaces of functionality, and protocols extensions to provide default implementations

- Automatic Reference Counting (ARC)
  - Discuss reference counting, lifetime qualifiers, and how to eliminate strong reference cycles

- The Tools
  - Using Xcode and the iPhone Simulator

- Simple iOS App
  - Develop a simple iOS app using UIKit

- Swift
  - Learn the language used in all iOS development

- Views
  - Build up interfaces using Interface Builder and in code
- Delegates
  - Using the delegate design pattern
- Toolbars and View Controllers
  - Create applications with more than one view
- Auto Layout
  - Using Auto Layout to create user interfaces that work on any device
- Localization
  - Making internationalized iOS apps
- Animations
  - Using animations to create unique user interfaces
- Table View
  - Using table views, table view controllers and creating custom table view cells
- Stack Views
  - Building complex linear interfaces quickly and easily using stack views
- Navigation Controller
  - Using navigation controllers to display multiple user interfaces
- Camera
  - Accessing the camera and using the image picker
- Archiving and Unarchiving
  - Using NSCoder for data persistence
- Size Classes
  - Creating interfaces that adapt to the current device and orientation
- Touch Events
  - Dealing with single and multi-touch events
- Gesture Recognizers
  - Detecting gestures with UIGestureRecognizer

- Web Services
    - Using NSURLSession to access web services

- Collection Views
    - Using a flow layout to display a grid of items

- Core Data
    - Using Core Data for persistence