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# iOS Application Developer

## Course Guide

**iOS** (formerly **i**Phone **OS**) is a mobile operating system created and developed by Apple Inc. exclusively for its hardware. It is the operating system that presently powers many of the company's mobile devices.

## iOS Apple is globally accepted exam

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# iOS Course Contents

iOS curriculum designed to meet the requirements of next generation mobile programming needs.

## Swift Language Constructs

- Why another language by Apple?
- Swift 1.0, 2.0, 2.2 and now 3.0
- Data types and modifiers
- The for Statement
- The if Statement
- The while and do while Statements
- The switch Statement
- The break Statement
- Constants
- Operators
- Casts and Conversions
- Keywords
- Arrays

## Object-Oriented Programming

## Classes

## Functions

## Properties

## Constructors

## Protocols

## Exceptions

- Exception Handling
- The Exception Hierarchy

## Threads

- Threads vs. Processes
- Creating Threads by Extending Thread
- Creating Threads by Implementing Runnable
- Advantages of Using Threads

## iOS App Concepts

### iOS Framework and XCode Introduction

- What's new in iOS 10
- Model View Controller (MVC)
- Pre-requisites for iOS Application Development
- Installing XCode and the iOS SDK
- iOS Simulators
- iOS Developer Account

Lab 1: Creating Your First Application

### iOS Application basics

- Xcode Project Structure
- The Storyboard
- Products
- Frameworks
- Xcode Project Settings
- Targets
- The P List file

Lab 2: Controlling a Camera's Flash Light

### Storyboards, ViewController and Views

- Views in a Storyboard
- ViewController
- Auto Layout
- Constraints

Lab 3: Creating a View in SB that fits all iPhone/iPad Screens

### Presentations and Transitions

- Presenting a View Controller
- Presentation Styles
- Transition Styles
- Segues
- Segues between VCs
- Modify Segues default behavior
- Implement custom Segue

Lab 4: Make a phone Book Application

### Core Data

- What is Core Data
- No SQL?
- Managed Object model
- Entities, Attributes and relationships
- Creating and Saving Managed Objects
- Fetching Objects
- Modifying Managed Objects

Lab 5: Creating a persistent Contacts list

### Storage and Background processing

- User Defaults
- File I/O

- Get saved data via iTunes
- Connecting to the internet
- Background Processing

Lab 6: Quotes Provider Application

### Notifications

- Toasts
- UINotificationRequest
- Create a UINotificationRequest
- Getting the request details
- NSNotification Centre
- Notification Observers
- Posting a notification

Lab 6: Implementing iOS Notifications

### Accessing Phone Hardware

- Take picture with a Camera
- Record Audio with the microphone
- Accessing the Motion Sensors
- Interacting with Wifi

Lab 7: A Geo Tagging photo App.

### Core Bluetooth

- Classic and BLE
- MFI program
- BLE Central and Peripheral
- GATT
- Apple Watch

Lab 8: A BLE enabled application that uses TI's SensorTag to detect how hot is your Coffee

### Map Kit & Core Location

- Basics
- Beacons and Beacon Regions
- Getting User's Location
- GeoFencing
- Displaying Locations on Map
- Core Location Best Practices

Lab 9: A Geo fencing Application

### Core Image & Graphics

- Introduction
- drawing lines and basic shapes
- Animating an Object
- Creating New Images Using Bitmap Graphics Contexts

Lab 10: Making a Graph Application

## Practical Approach

Real-time examples will be given throughout the lectures.

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