



( A Venture of Chandigarh ETC Services Pvt. Ltd. )

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Website : [www.citcchandigarh.com](http://www.citcchandigarh.com)

## Syllabus of iOS App Development

### 1: Introduction to iOS App Development

- 1.1 Introduction
- 1.2 Understand and use constants and variables
- 1.3 Understand and use Swift array
- 1.4 Learn about Randomisation
- 1.5 Understanding Basic gesture controls and motion detection

### 2: Introduction to Swift Programming

- 2.1 Swift playgrounds and swift syntax
- 2.2 Data Types
- 2.3 Constants and Variables
- 2.4 Swift Functions, Input Parameters and Return Types
- 2.5 Control Statements and Loops

### 3: iOS/Xcode Interface Builder

- 3.1 Setup new Xcode project
- 3.2 Interface Builder and app Appearance
- 3.3 Way around Xcode
- 3.4 Attribute of Various UI Elements
- 3.5 Arrangement of UI Elements
- 3.6 Sizing of UI Elements

### 4: Reading & Using Apple Documentation

- 4.1 Play Sounds
- 4.2 ViewController Lifecycle
- 4.3 Use Tags in Interface Builder
- 4.4 Error Handling
- 4.5 Code Refactoring

### 5: iOS Design Pattern and MVC

- 5.1 Introduction to Design Pattern
- 5.2 MVC
- 5.3 OOP (Object Oriented Programming)
- 5.4 Storage of data locally
- 5.5 incorporate third party libraries
- 5.6 How to refactor code and stay organized
- 5.7 Learn about Class Initialization
- 5.8 Programmatically change UI Element

### 6: iOS Layout and Setting Constraints

- 6.1 Adding Constraints
- 6.2 pin and Align UI Elements
- 6.3 Create Containers to Configure Advance Layout

### 7: Intermediate Swift Programming

- 7.1 Introduction
- 7.2 Classes and Objects
- 7.3 Properties
- 7.4 Enumerations
- 7.5 Functions Versus Methods
- 7.6 Inheritance with Override Keyword
- 7.7 Initialization
- 7.8 Optional Types, Forced Wrapping, Chaining

### 8: Networking APIs and Third Party Library Dependency Manager

- 8.1 CocoaPods to manage and Use Open Source Libraries
- 8.2 Command Line on Mac with Terminal
- 8.3 Networking calls
- 8.4 Controlling Stack Navigation programmatically
- 8.5 Use Public web based APIs to Fetch data
- 8.6 Using Parse Data Organised in JSON Format
- 8.7 Learn about Core Location and iPhone's GPS
- 8.8 Navigations
- 8.9 Delegates and Protocols
- 8.70 Swift Switch Statements

### 9: The Command Line and Terminal

- 9.1 Basic Bash Commands in Unix Terminal
- 9.2 Manipulate Files and Folders without GUI
- 9.3 Download and Install to your computer using Command Line

### 10: Cloud Based Backend, User Authentication and TableViews

- 10.1 Introduction
- 10.2 Integrate Third Party Libraries
- 10.3 Query the Firebase Database
- 10.4 Firebase for User Authentication
- 10.5 UITableView
- 10.6 Embed View Controller in Navigation Controller
- 10.7 How to Create Segues for Navigation
- 10.8 Navigate Design Components
- 10.9 Using Grand Central Dispatch to Queue Asynchronous tasks

### 11: Git Github and Version Control

- 11.1 Version Control and Collaboration
- 11.2 Git Forking, Branching and Cloning
- 11.3 Using Github as Remote Repository
- 11.4 Checkout and Rolling back Changes with Git
- 11.5 Using Git and Github Using Xcode

### 12: Persistent Storage Solutions

- 12.1 How to User Default and Plists
- 12.2 How to use the Codable Protocol To Save to File
- 12.3 Use Core Data for Relational Data Management
- 12.4 Realm as Modern Database Solution

### 13: InApp Purchase & Apple Storekit API

- 13.1 Integrating App Storekit API into Your app
- 13.2 Test using Sandbox Accounts

### 14: Machine Learning on iOS, CoreML & CreateML

- 14.1 Introduction to Machine Learning
- 14.2 CoreML
- 14.3 Using IBM Watson Bluemix & Carthage For intelligent iOS apps
- 14.4 Advance CreateML

### 15: Augmented Reality on IOS & ARKIT

- 15.1 Introduction
- 15.2 Creating 3D objects & Text in AR
- 15.3 Animation in AR
- 15.4 Plane Detection
- 15.5 Measuring Real World Distances in AR
- 15.6 Image Recognition and Tracking in AR
- 15.7 Rendering 3D models
- 15.8 Playing Videos in Real World

### 16: Publishing to App Store

- 16.1 Familiarizing with App Store Connects
- 16.2 Write the App Listing
- 16.3 Applet Test Flight
- 16.4 Submitting your App For Review

### 17: Mobile App Design

- 17.1 Color Theory
- 17.2 Typography
- 17.3 Mobile User Interface Design Fundamentals
- 17.4 Mobile User Experience Design Fundamentals
- 17.5 iOS Vs. Android Design Difference
- 17.6 Using Sketch Marvel to Design Your App Mockup
- 17.7 Design Resources