



Let's Reach For Excellence!

TAN DUC INFORMATION TECHNOLOGY SCHOOL JSC

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iOS Certified Associate Developer (ICAD)

Duration: 05 days (Instructor-Led)

This 5-day course will guide students through the process of the entire process of developing an iPhone application from designing, developing, testing and releasing an iPhone and iPad applications. The goal is to get you past the initial learning curve to help you to understand the way iPhone and iPad applications work and how they are built.



INTRODUCTION

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PREREQUISITES

All participants should know the Basic competency in at least one object-oriented programming language (such as C++/C#/Java, Javascript). Participants are also required to register as an Apple iOS Developer (Free) at apple website, <https://developer.apple.com/programs/register/>.

TARGET AUDIENCE

This workshop is intended for Programmers and designers with programming abilities who are interested in developing applications for iPhone and iPad supporting popular iOS application.

LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

- Explore the basics of iOS device capabilities and limitations.
- Illustrate the iOS development Process.
- Explain the basics of the Model View Controller architecture.
- Leverage some of the networking and multi-threading capabilities that exist in iOS.
- Utilize the Swift programming language including properties, conditionals, instance variables, classes, strings, arrays, loops, methods and enums.
- Employ basic Debugging and trouble shooting.
- Explore and use UI Elements and Auto Layout.
- Utilize Git source control.
- Persist data (Plists, User Defaults, Core Data).
- Handle user touches and gestures and audio and video and build a simple interactive game with SpriteKit.
- Utilize Cocoa Touch, the UIKit and Swift to create iPhone/iPad applications.
- Experience working in teams on iOS related projects.
- Explain the process of creating a universal app that will run on both iPhone and iPad devices.
- Detail the process required to publish and submit an iOS application.
- Design, develop, create and present a significant final iOS business application project.

COURSE OUTLINE

Day 1 Fundamentals

Getting started with XCode

- Introduction & Getting Started
- Register to the Apple Developer Program
- Getting other iOS Simulator
- Interface
- ToolBar
- Navigation Area
- Editor Area
- Utility Area
- Testing application in your device

Swift 3 Language

- Introduction
- Files
- Coding Practice
- Basic Variables and Swift Data Type
- Operation
- Optional and Optional Binding
- Class Declaration
- OOP in Swift
- Methods calling
- Basic Design Pattern
- MVC Diagram
- Target- Action
- Protocol & Delegate
- Selectors
- Protocol

Overview of iOS 10 & iOS 11

- iOS Architecture
- iOS10 SDK Features
- iOS11 SDK Features
- Using NSFoundation and UIKit

- App Designing Process
- Latest UI/UX Design trend.
- Introduction to Prototyping tool.
- App Design Case Study.
- Debugging Tools Instruments

Creating a Single View Application

- Understanding different templates in XCode
- Programming UI Elements UIButton, UITextField, UISwitch, UISlider
- Using Assets management in XCode
- Multiple Screen Development with Size Class and Autolayout

Day 2 Creating Interfaces

Creating an application Interface

Mobile app Development Lifecycle

- Understanding Different App Development Lifecycle
- Product Roadmap and versioning
- UI/UX Trend
- Design Principle in Mobile application
- Application Prototyping.

Create View

- UINavigationController
- Nested navigation Controller
- UITabBarController
- Multi Views Storyboard & Segue
- Introduction
- Views
- Dynamic & Static Table
- Collection View
- Creating Custom Cells

Multi Views

- Segue Elements
- Passing Data diagram
- Passing Data

- Sample passing data code

Debugging Application

- Using breakpoint
- Understanding common mistake by developer
- Using print function

Day 3 Creating Data

PList (Local) Property List

- Introduction
- Retrieving data
- Plist to Table App using UserDefaults
- App Settings
- UserDefaults
- + Introduction
- + Store data code
- + Retrieve data code

JSON (Remote)

- Introduction
- Frameworks
- Step-by-Step

Core Data (Local)

- Overview
- Introduction
- Core Data VS SQLite
- Step-by-Step

Remote Data

- Introduction
- NSAppTransport Security
- Integrate with Remote API and Web service.
- Parsing JSON Data

Day 4 Devices Features

Core Location

- Overview
- Accuracy
- Basic Setup
- Reverse Geocoding

Map using MapKit Framework

- Overview
- Placing point
- Annotation Details
- Step-by-Step

Creating Camera Functionality

- Overview
- Code
- Check Camera Availability
- Getting Image from Photo Library
- Check support video

Gestures Adding

- Overview
- UI Tap Gesture Recognizer
- Motion gestures

Social Framework

- Adding Facebook to your App
- Adding Twitter to your App

Mini Project Delivery includes:

- User flow documentation.
- Analyzing Technical requirement.
- Mobile application. (End product)

Day 5 Multimedia, Localization and Beyond the Basic

UIWeb View

- Display live dynamic web pages

Making Multimedia Audio & Video

- Movie Formats

- Audio Formats
- Frameworks
- Overview

App Localization Internationalize your App

- Why Localization
- What can be localized?
- NSLocalizedString
- App name how?
- Changing Language
- Common Pitfalls

Coding best practice:

- Test driven development: Unit testing and automation testing
- Working in team: Code style
- Code documentation using HeaderDoc
- Best practice of implementing Security in application

Beyond the basic

- Dependency Management with Cocoapods
- Using third party library
- Understanding BaaS

App Submission Process

- Checklist
- App Review Guidelines
- Human Interface Guidelines
- Considerations before uploading.
- Managing Alpha and Beta Testing with Testflight.
- App submission.
- Acquisition strategy: Introduction to App Store Optimization.
- Flow

Exam Format

Format: Multiple Choice based questions Duration: 2 hours

Total Questions: 50

Passing Score: 70%

ABOUT ITRAIN ASIA – CERTIFICATION BODY

iTrain Asia Pte. Ltd. with its headquarters in Singapore and branch office in Malaysia and Indonesia is a Tech Certification Body that provides Digital Tech certification exams, course materials and also trainings via its Authorised Training Partners (ATP). Its certifications are currently being rolled out to Individuals, Corporates and also Universities throughout 16 countries in Asia.

- Android Certified Associate Developer (ACAD)
- iOS Certified Associate Developer (ICAD)
- Certified Data Science Specialist (CDSS)
- Certified IoT Specialist (CIoTS)
- Certified Digital Marketing Specialist (CDMS)
- Fintech Foundation Certificate (FFC)
- Introduction to Deep Learning with NVIDIA GPUs (Partner with NVIDIA Deep Learning Institute)

iTrain Asia's Mobile Certification Trainings is endorsed by IMDA - Info-communications Media Development Authority of Singapore (formally known as IDA Singapore) under Critical Infocomm Technology Resource Programme Plus (CITREP+). The Certification Training is mapped to Singapore National Infocomm Competency Framework (NICF).