MOB850 : iOS Development with Swift

Code :	MOB850	**Duration :**	5 days	**Category :**	Mobile

Audience :

This course is intended for developers who want to use the Swift programming language to develop apps for the iPhone and the iPad.

Prerequisites :

Some knowledge of programming in Objective C or Swift is required to participate in this course.

Realization :

The theory is treated on the basis of presentation slides. Demos are used to explain the theory. There is ample opportunity to practice and theory and exercises are interspersed. The course uses the latest iOS SDK 8, Xcode 6 and Interface Builder.

iOS Development with Swift

Contents :

In the course iOS development with Swift participants learn to use the programming language Swift for developing apps for the iPhone and the iPad. After an introduction into the XCode IDE and a review of the Swift programming language attention is paid to the anatomy of an iOS application, the sandbox environment and the characteristic architecture of iOS apps namely the model view controller architecture. The participants learn to work with the XCode IDE, Interface Builder, the UIKit Framework and the iOS SDK. During the course several apps are developed such as a newsreader app and apps that make use of multiple views. These apps use various controls such as buttons, switches, tables and maps. Also features specific to iPad apps such as split views and popup menus are addressed. Further attention is paid to multitasking, HTTP networking, web service access, data access with Core Data and SQLite and dealing with XML and JSON data. Participants learn to use storyboards for UI design and examine drawing techniques and animation. During the course also the debugging of iPhone and iPad apps are discussed. The course concludes by adressing deployment issues and localization of apps.

Module 1 : Apps Intro	**Module 2 : Swift Overview**	**Module 3 : App Architecture**
XCode IDe	Statements	MVC architecture
Creating projects	Constants	Model
Templates, Projects, and Workspaces	Variables	View
Creating a New Project	Data Types	Controller
LLVM and LLDB	Collection Types	IBOutlets
Debug Gauges	Functions	IBActions
Asset Management	Closures	Subclassing
XCTest Testing Framework	Classes and Structures	Delegation
Anatomy of an iOS Device	Automatic Reference Counting (ARC)	Root View Controller
iOS Architecture	Optionals	Navigation Controller
Available SDKs	Protocols	Controlling Stack Navigation
Version Compatibility	Generics	
	Objective-C Interoperability	

Module 4 : UIControls	**Module 5 : Views**	**Module 6 : Multitasking**
Interface Builder	What are views	Application States
Basic Interaction	The View Hierarchy	Background Execution
Buttons	View behavior	Background App Refresh
Text Fields	Containers	State Restoration
Sliders	Controls	Concurrency
Segments	Dynamic applications	Grand Central Dispatch (GCD)
Switches	Swap views	Serial and Concurrent Queues
Action sheets	Collection views	Main Dispatch Queue
Alerts	Grids	Completion Blocks
Scrolling	Text and Web Views	Operation Queues
Image scrolling	Navigation View	
Zooming images	Tab Bars	
Paging images	Alert Views and Action Sheets	
Data Picker	Display dynamic web pages	
Hiding the Keyboard		

Module 7 : Advanced Controls	**Module 8 : Persistence**	**Module 9 : RSS and JSON**
Pickers	Storing user preferences	Reachability
Tables	NSFileManager	Synchronous Downloads
Customizing Tables	NSFileHandle	Asynchronous Downloads
Static Table Views	NSData	Handling Timeouts
Dynamic Table Views	Pathnames in Swift	Sending HTTP GET Requests
Delegates	Working with Directories	Sending HTTP POST Requests
DataSources	Working with Files	Using RSS
Table View Styles	Reading and Writing from a File	Using JSON
Custom Cells	Key-Value Data	Parsing JSON
Tab Bars	SQLite Integration	Parsing XML
Using MapKit	Using SQLite Directly	AirDrop
Display Maps	Overview of Core Data	
Navigate Locations	Managed Objects	
Drop Pins	Persistent Store Coordinator	
	Entity Descriptions	
	Retrieving and Modifying Data	

Module 10 : Layouts and Storyboards

Auto layout
View Autosizing
Handling screen size
Handle rotation
Size classes
Split view controllers
Controlling Rotation Behavior
What are Storyboards?
Adding Scenes
Segues
Transitions
Using in a Tab Bar Application

Module 11 : Drawing and Animations

The Responder Chain
Touch Notification Methods
Scheduling notifications
Respond to notifications
Enabling Multitouch on the View
Gesture Motions
Gesture Recognizers
Drawing
Core Graphics and Quartz 2D
Lines, Paths, andShapes
Animation
Core Animation Blocks
Animation Curves
Transformations
SpriteKit
SceneKit
Physics Engine
Adding Effects

Module 12 : Advanced Topics

Targeting Multiple Devices
iPhone vs. iPad
Universal Apps
Detecting Device Capabilities
Supporting Multiple iOS Versions
Handoff
Interactions
App Framework Support
Implementing Handoff
Continuation Streams
App Extensions
Localization
Resources
Running on a Physical Device
Development Certificates
Assigning Devices
Creating an App ID
Provisioning Profiles