|  |  |  |
| --- | --- | --- |
| **CSMC 3003** | **MOBILE APPLICATION DEVELOPMENT USING IOS** | **L T P 3 0 0** |

* **Introduction, Xcode 5**

iPhone and iPad Device Anatomy, iOS Architecture and SDK Frameworks, iOS and SDK Version Compatibility, Apple iOS Developer Program Tour of the IDE, Templates, Projects, and Workspaces, Creating a New Project, LLVM and LLDB, Debug Gauges, Asset Management, XCTest Testing Framework, Continuous Integration and Bots, Automatic Configuration.

* **C for Experienced Programmers**

Classes, Objects, and Methods, Declared Properties, Memory Management, Automatic Reference Counting (ARC), Categories and Extensions, Formal and Informal Protocols, Blocks.

* **Application Patterns and Architecture, Views and Windows, Storyboards**

Model View Controller (MVC), IBOutlets and IBActions, Subclassing and Delegation. The View Hierarchy, Containers, Controls, Text and Web Views, Navigation View and Tab Bars, Alert Views and Action Sheets, Controlling Rotation Behavior, View Autosizing, Autolayout. Adding Scenes, Segues, Transitions, Using in a Tab Bar Application.

* **Table Views**

Static and Dynamic Table Views, Delegates and Data Sources, Table View Styles, Custom Cells.

* **Navigation Based Applications, UIPickerView and UIDatePicker, Directories and Files**

Adding the Root View Controller, Creating the Navigation Controller, Controlling the Stack Navigation Programmatically Designing the UI, Coding for the Data Picker, Hiding the Keyboard, Memory Management NSFileManager, NSFileHandle, and NSData, Problems Solved by ADO.NET Entity Framework, Pathnames in Objective-C, Working with Directories, Working with Files, Reading and Writing from a File, iCloud, Key-Value Data, Archiving.

* **Working with Data, Multitouch, Taps, and Gestures, Drawing**

SQLite Integration, Using SQLite Directly, Overview of Core Data, Managed Objects, Persistent Store Coordinator, Entity Descriptions, Retrieving and Modifying Data. The Responder Chain, Touch Notification Methods, Enabling Multitouch on the View, Gesture Motions, Gesture Recognizers Core Graphics and Quartz 2D, Lines, Paths, and Shapes, Animation, Core Animation Blocks, Animation Curves, Transformations.

* **Multitasking, Notifications, Core Location Framework, Concurrency**

Application States, Background Execution, Background App Refresh in iOS 7, State Restoration Local Notifications, Push Notifications Location Accuracy, Obtaining Location Information, Calculating Distances, MapKit Framework and MKMapView. Grand Central Dispatch (GCD), Serial and Concurrent Queues, Main Dispatch Queue, Completion Blocks, Operation Queues.

* **Networking, Targeting Multiple Devices, Localization, Performance and Power Optimization**

Reachability, Synchronous Downloads, Asynchronous Downloads, Handling Timeouts, Sending HTTP GET and POST Requests, Parsing JSON, Parsing XML, AirDrop iPhone vs. iPad, Universal Apps, Multiple SDK Support, Detecting Device Capabilities, Supporting iOS 6 and iOS 7. Resources, Language and Region, NSLocale, Text, Dates, Numbers Measuring Performance, Instruments, Responsiveness, Memory Usage, Spikes, and Leaks, Networking and Power.

**Text Book:**

* **Mobile Application Development using iOS**  (IBM ICE Publication)