



SYLLABUS

Course Title	Mobile Application Development
Course Code	MCAL313
Course Credit	Theory(Hrs) : 4
	Practical(Hrs) : 4
	Tutorial(Hrs) : 0
	Credits : 6

Course Objectives

The Objectives of the course are:

- To gain knowledge about Android and iOS development environment, operating system and architecture
- To understand the internal working of android and iOS operating system to build an application
- To understand different user interface screen elements & layouts to design mobile applications
- To develop android applications with database interaction and website integration
- To construct iOS applications with database interaction
- To deploy android and iOS application in actual device

Detailed Syllabus

Sr. No.	Name of chapter & details	Hours Allotted
Section – I		
1	Android Operating System And Development Environment Introduction, Android Versions with Features, Android Architecture, OHA, Eclipse IDE, Android SDK, Android Development Tools, Android Virtual Devices, Directory Structure of Android Application, Anatomy of Android Application, AndroidManifest file	04

2	Android Terminologies & Resource handling Context, Activity, Intent, Service, Broadcast Receiver Working with different types of Resources: string, string-array, color, dimen, styles and themes	08
3	Android User Interface Elements Linear Layout, Absolute Layout, Frame Layout, Relative Layout, Table Layout, Creation of Layout Programmatically. User Interface Screen Elements with Properties, Events and Methods, Dialog Boxes, Menus: Option & Context. Tweened Animation, Frame by Frame Animation	08
4	Android Services Phone: Call, SMS, Network Connectivity, Web API, Maps, GPS, Location, Notification, Alarm	08
Section – II		
5	Android Storage Techniques Shared Preferences, Files & Directories, SQLite Database Connectivity & Operations, Content Providers	07
6	Web Application Integration Techniques & Deployment Introduction, JSON Parsing, XML Parsing, DOM Parsing, Publish Android Application in Android Market	06
7	Beginning with iOS, Xcode, Objective-C iOS application Life Cycle, Xcode Overview Consol Based Application: Overview, Build-Compile-Run Fundamentals of Objective-C: User Input, Data types, Conditional Statements, Looping Statements, Operators, NSInteger, String: Mutable, Immutable, Array: Mutable, Immutable	04
8	User Interface and Application Development Introduction to .h, .m and .XIB File, Simulator, Single View Application Development, User Interface Design Controls with Properties and Actions, Understanding Outlets And Actions, Storyboard Based Application, Deployment of Application	04
9	iOS Storage Techniques SQLite Database in iOS, Database Connectivity & Operations	03
10	Case Study on Android	04

Instructional Method & Pedagogy:

- Lectures will be conducted on the basis of Classroom Response Systems with the use of multimedia projector and black board.
- Assignments based on course contents will be given at the end of each unit/topic and will be evaluated at regular interval.
- Experiments will be based on the practical curriculum and will be evaluated at regular interval.
- Students will be guided to develop the real-world applications with the advanced concepts of application development.

Course Learning Outcomes:

On the completion of the course, students will be able to:

- **Acquire** an insight into concepts of android and IOS development terminologies, environment and architecture
- **Design** mobile application user interface and layouts
- **Develop** robust android applications with database interaction and website integration
- **Construct** IOS applications with database connectivity
- **Deploy** application in actual device

Text books:

- Title: Android Wireless Application Development, 2nd Edition, Pearson Education, Author(s): Lauren Darcey and Shane Conder
- Title: Beginning iOS 6 Development – Apress Author(s): David Mark, Jack Nutting and Jeff LaMarche

Reference Books:

- Title: Professional Android 4 Application Development, John Wiley & Sons Author(s): Reto Meier
- Title: Beginning Android, Apress Author(s): Mark L Murphy
- Title: Programming in Objective-C 2.0 Author(s): Stephen G. Kochan

Additional Resources:

- <http://www.vogella.com/articles/Android/article.html>
- <http://androinica.com/category/androidguide/>
- <http://www.learn-android-easily.com/>
- <http://www.javatpoint.com/android-tutorial>
- <http://www.raywenderlich.com/tutorials>

- <http://www.appcoda.com/ios-programming-course/>
- <http://www.tutorialspoint.com/ios/>