MANGALORE UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

CSS 506: ANDROID APPLICATION DEVELOPMENTS		
Hours/Week: 4 **Credits : 4**		**I.A. Marks: 30** **Exams. Marks: 70**

Course Outcomes:

CO1: By the end of the course, student will be able to gain a thorough understanding of Android architecture
CO2: Will be able to write simple GUI applications,
CO3: Use built-in widgets and components, work with the database to store data locally, and much more.
CO4: Acquire the necessary skillets and experience for professional Android application development by building six top-trending applications during the course.
CO5: Achieve expertise in app development for Android wearable devices

	UNIT-I	12 Hrs.

Introduction to Android Operating System: Android OS design and Features – Android development framework, SDK features, Installing and running applications on Eclipse platform, Creating AVDs, Types of Android applications, Best practices in Android programming, Android tools Android application components – Android Manifest file, Externalizing resources like values, themes, layouts, Menus etc., Resources for different devices and languages, Runtime Configuration Changes Android Application Lifecycle – Activities, Activity lifecycle, activity states, monitoring state changes.

	UNIT-II	12 Hrs.

Android User Interface: Measurements – Device and pixel density independent measuring units Layouts – Linear, Relative, Grid and Table Layouts User Interface (UI) Components – Editable and non-editable Text Views, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers Event Handling – Handling clicks or changes of various UI components Fragments – Creating fragments, Lifecycle of fragments, Fragment states, Adding fragments to Activity, adding, removing and replacing fragments with fragment transactions, interfacing between fragments and Activities, Multi-screen Activities.

	UNIT-III	12 Hrs.
Intents and Broadcasts: Intent – Using intents to launch Activities, Explicitly starting new Activity, Implicit Intents, Passing data to Intents, Getting results from Activities, Native Actions, using Intent to dial a number or to send SMS Broadcast Receivers – Using Intent filters to service implicit Intents, Resolving Intent filters, finding and using Intents received within an Activity Notifications – Creating and Displaying notifications, Displaying Toasts		
	UNIT-IV	**12 Hrs.**
Persistent Storage: Files – Using application specific folders and files, creating files, reading data from files, listing contents of a directory Shared Preferences – Creating shared preferences, saving and retrieving data using Shared Preference Database – Introduction to SQLite database, creating and opening a database, creating tables, inserting retrieving and deleting data, Registering Content Providers, Using content Providers (insert, delete, retrieve and update). Advanced Topics: Alarms – Creating and using alarms Using Internet Resources – Connecting to internet resource, using download manager Location Based Services – Finding Current Location and showing location on the Map, updating location.		

REFERENCE BOOKS:

1. Reto Meier, Professional Android 4 Application Development, Wiley India, (Wrox) , 2012.
2. James C Sheusi, Android Application Development for Java Programmers, Cengage Learning, 2013
3. Wei-Meng Lee, Beginning Android 4 Application Development, Wiley India (Wrox), 2013