

Subject Code: 2CS2010302	Subject Title: Android Programming
Pre-requisite:	Knowledge of the Core Java Programming, database concepts

Course Objective:

The objectives of the course are to:

- Understand the process of developing software for the mobile.
- Able to create mobile applications on the Android Platform.
- Able to create mobile applications involving data storage in SQLite database.
- Able to create mobile application to call and message via Android APIs.
- Learn to deploy the Android Application to the world via Play Store.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	1	3	7	60	40	30	20	150

Subject			
Sr. No	Topic	Total Hours	Weight (%)
1	Introduction to Android: • History of Mobile Software Development • The Open Handset Alliance • The Android Platform Android SDK • Building a sample Android application	9	25
2	Android Application Design Essentials: • Anatomy of an Android applications • Android terminologies • Application Context, Activities, Services, Intents • Receiving and Broadcasting Intents • Android Manifest File and its common settings • Using Permissions • Managing Application resources in a hierarchy • Working with different types of resources	9	25
3	Android User Interface Design Essentials: • User Interface Screen elements • Designing User Interfaces with Layouts • Drawing and Working with Animation	6	15
4	Using Common Android APIs: • Managing data using SQLite • Using Android Networking APIs • Using Android Web APIs • Using Android Telephony APIs	9	25
5	Deploying Android Application to the World: • Selling your Android application	5	10

Course Outcome:

At the end of this course, the student would be able

- To understand the importance of mobile application for solving real world problems.
- To develop mobile application using Android Platform.
- To understand the mechanism of database structure with Android Programming using SQLite Database.

List of References:

1. Lauren Darcey and Shane Conder, "Android Wireless Application Development", Pearson Education, 2nd ed. (2011).
2. Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd (2011).
3. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd(2009).
4. Sayed Y Hashimi and Satya Komatineni, "Pro Android", Wiley India Pvt Ltd(2009).

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may Change/formulate it as per his/her methodology and requirement.

Sr.No	Practical Experiments
1.	Create "Hello World" application. That will display "Hello World" in the middle of the screen in the Red color with white background.
2.	2.1 To understand Activity, Intent a. Create sample application with login module.(Check username and password) b. On successful login, go to next screen. And on failing login, alert user using Toast. c. Also pass username to next screen. 2.2 Create login application where you will have to validate EmailID (UserName). Till the username and Password is not validated, login button should remain disabled. 2.3 Create and Login application as above. On successful login, open browser with any URL. 2.4 Create an application that will pass some number to the next screen , and on the next screen that number of items should be display in the list. 2.5 Understand resource folders : a. Create spinner with strings taken from resource folder (res >> value folder). b. On changing spinner value, change image. 2.6 Understand Menu option. a. Create an application that will change color of the screen, based on selected options from the menu. 2.7 Create an application that will display toast (Message) on specific interval of time. 2.8 Create an background application that will open activity on specific time.
3.	3.1 Create an application that will have spinner with list of animation names. On selecting animation name, that animation should affect on the images displayed below. 3.2 Understanding of UI : a. Create an UI such that, one screen have list of all the types of cars. b. On selecting of any car name, next screen should show Car details like : name , launched date , company name, images(using gallery) if available, show different colors in which it is available. 3.3 Read messages from the mobile and display it on the screen.
4	4.1 Understanding content providers and permissions: a. Read phonebook contacts using content providers and display in list. 4.2 Create an application to call specific entered number by user in the EditText 4.3 Create an application that will create database with table of User credential. 4.4 Create an application to make Insert, update, Delete and retrieve operation on the database. 4.5 Create an application to send message between two emulators.