

Course Code: CSOE-7	Course Title: Mobile Applications
Course Credits: 03	Hours / Week : 03
Total Contact Hours: 42	Formative Assessment Marks:40
Exam Marks:60	Exam Duration: 02 hrs.

Course Outcomes:

This course will help student to improve the speed by writing apps for Android devices. Ability in implementing layout management and multi-layout definition techniques to create adaptable user interfaces for mobile applications that share a common data model. Manage user data and multimedia on a mobile device via the Android framework libraries.

Course Content

Content	Hours
Unit – 1	
<p>ANDROID OVERVIEW AND ARCHITECTURE Android History: Android versions, various Android devices on the market , applications , Android Development Environment - System Requirements, Android SDK, Installing Java, and ADT bundle - Eclipse Integrated Development Environment (IDE), Creating Android Virtual Devices (AVDs) Android Architecture: Overview and Creating an Example Android Application: The Android Software Stack, The Linux Kernel, Android Runtime - Dalvik Virtual Machine, Android Runtime – Core Libraries, Dalvik VM Specific Libraries, Java Interoperability Libraries, Android Libraries, Application Framework.</p>	8
Unit – 2	
<p>ANDROID SOFTWARE DEVELOPMENT PLATFORM Introduction to Android Project: Creating a New Android Project Defining the Project Name and SDK Settings, Project Configuration Settings, Configuring the Launcher Icon, Creating an Activity, Running the Application in the AVD. Activity and its features: Activity and Activity Life cycle, Reviewing the Layout and Resource Files, Understanding Java SE and the Dalvik Virtual Machine , The Directory</p>	8

<p>Structure of an Android Project , Common Default Resources Folders , The Values Folder, Leveraging Android XML, Screen Sizes , Launching Your Application: The AndroidManifest.xml File , Creating Your First Android Application. (Hand-on Practice)</p>	
<p>Unit - 3</p>	
<p>ANDROID FRAMEWORK OVERVIEW AND VIEWS</p> <p>Android Application Components: Android Activities: Defining the UI, Android Services: Processing in the Background, Broadcast Receivers: Announcements and Notifications Content Providers: Data Management, Android Intent Objects: Messaging for Components Android Manifest XML: Declaring Your Components.</p> <p>Understanding Android Views: Views, View Groups and Layouts. Android Layout Managers, The View Hierarchy, Designing an Android User Interface using the Graphical Layout Tool. (Hands-on Practice)</p>	<p>9</p>
<p>Unit - 4</p>	
<p>GRAPHICAL USER INTERFACE SCREEN, PICTURES AND MULTIMEDIA</p> <p>UI and Properties: Displaying Text with TextView, Retrieving Data from Users, Using Buttons, Check Boxes and Radio Groups, Getting Dates and Times from Users, Using Indicators to Display Data to Users, Adjusting Progress with SeekBar, Working with Menus using views.</p> <p>Images and feature: Displaying Pictures Gallery, Image Switcher, Grid View, and ImageView views to display images, Creating Animation. (Hands-on Practice)</p>	<p>9</p>

Unit – 5	
<p>Multiple Activity: Intent Overview, Implicit Intents, Creating the Implicit Intent Example Project, Explicit Intents, Creating the Explicit Intent Example Application.</p> <p>Multimedia: Audio, Video, Camera, Playing Audio and Video, Recording Audio and Video, (Hands-on Practice)</p>	8

REFERENCES

1. Professional Android 4, Recto Meier and Ian Lake., 4th Edition. (TEXT BOOK)
2. Android, A programmer's Guide, Jerome (J.F) DiMarzio.
2. Android Programming for Beginners, John Horton, 2015
3. Android Programming, The Big Nerd Ranch Guide, Second edition.
4. Android Development, Mark L Murphy, 4th Edition.

ASSESSMENT FOR THE OPEN ELECTIVE COURSES

The open elective courses offered to other department for the UG candidates are all 3 credit courses and the total marks allotted for these courses are 100.

The 100 marks are further subdivided in to 40 for CA and 60 for semester examination. The 40 marks for the CA are further trifurcated as given below: (i) One activity for 10 marks within 7 weeks of starting the course (ii) One test for 20 marks (ii) one activity for 10 marks within 12 weeks of starting the course. The schedule of test / activity must be announced to the students by the 5th week of the semester. The test / activity can be organised by the subject teacher and can be conducted in microsoft teams. If the teachers want to give a third activity, it will be in lieu of the first or second activity.

The Semester Examination will be conducted for 60 marks and for a duration of 2 hours. It will be MCQ pattern.