

COURSE CODE	COURSE TITLE	L	T	P	C
1151CS201	MOBILE APPLICATION DEVELOPMENT	3	0	2	4

Course Category: Program Core

A. Preamble:

In this modern era almost, every hand has a handheld device. Each handheld device has the computing capability to meet the half the needs of user such as banking, browsing, education and emergency etc. It is a must for a computer engineer to have some basic knowledge about the handheld devices platform and its supporting software development. This course will give adequate knowledge in developing a mobile application for different such as Android, iOS, Windows.

B. Prerequisite Courses:

Sl. No	Course Code	Course Name
1	1151CS103	Programming in Java
2	1151CS117	Java Programming
3	1151CS112	Object Oriented Software Engineering

C. Related Courses:

Sl. No	Course Code	Course Name
1	1156CS601	Minor Project
2	1156CS701	Major Project

D. Course Outcomes:

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Level of learning domain (Based on revised Bloom's taxonomy)
CO1	Explain Android Architecture and various mobile platforms	K2
CO2	Develop Android application with basic building blocks	K3
CO3	Familiarize in the Graphics and Multimedia used for Android application development	K2
CO4	Test the developed app and publishing for users	K3
CO5	Explain the development of app for iOS and Windows platform	K2

E. Correlation of COs with POs:

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO1	H	M			M	M	M				M	M	M		
CO2	M	M	M		H			M	M			L		M	M
CO3	H	H	H		H			M			M			M	
CO4	H	M	M		H			M	M	M	M	L		M	M
CO5	M	M	M		H										

H- High; M-Medium; L-Low

F. Course Content:

UNIT 1: GETTING STARTED WITH MOBILITY

L-9

Mobility landscape- Mobile platform- Mobile apps development, Overview of Android platform-setting up the mobile app development environment along with an emulator- case study on Mobile app development

UNIT II: BUILDING BLOCKS OF MOBILE APPS

L-9

App user interface designing – mobile UI resources (Layout, UI elements, Drawable, Menu), Activity- states and life cycle, interaction amongst activities-App functionality beyond user interface - Threads, Async task, Services – states and lifecycle, Notifications, Broadcast receivers, Telephony and SMS

UNIT III: SPRUCING UP MOBILE APPS

L-9

Graphics and animation – custom views, canvas, animation APIs, multimedia – audio/video playback and record location awareness- native hardware access (sensors such as accelerometer and gyroscope)

UNIT IV: TESTING MOBILE APPS and PUBLISHING

L-9

Debugging mobile apps- App Test procedure - test automation of mobile apps- JUnit for Android - Versioning, signing and packaging mobile apps, distributing apps on mobile marketplace

UNIT V: CROSS COMPILER APP DEVELOPMENT

L-9

Introduction cross platform development -XAMARIN – XMAL – XMARIN FORMS – XAMARIN. IOS – XAMARIN.WINDOWS

Lab Experiment:

L-15

- 1.Setting up android and android emulator
- 2.Creating UI element – Layout
- 3.Creating UI element – Button
- 4.Creating UI element - Menu
- 5.Demonstrating Thread
- 6.Demonstrating Services
- 7.Creating Animation view and canvas
- 8.Listing the sensors used in mobile phone
- 9.Creating .apk file and publishing
10. Creating simple application using XAMARIN

Total :75

G. Learning Resources

i. Text Books

1. AnubhavPradhan, Anil V Deshpande” Composing Mobile Apps Learn|Explore|Apply using Andriod”, Wiley Publications 1st Edition 2014.
2. Xamarin Studio for Android Programming: A C# Cookbookby Mathieu Nayrolles

ii. Reference Books

1. David Mark, Jack Nutting, Jeff LaMarche and Frederic Olsson, “Beginning iOS 6 Development: Exploring the iOS SDK”, Apress, 2013.
2. Charlie Collins, Michael Galpin and Matthias Kappler, “Android in Practice”, DreamTech, 2012

Xamarin 4.x “Cross-Platform Application Development”, by Jonathan Peppers