

CSC-455: Mobile Application Development

General Information

Course Number	CSC-455
Credit Hours	3+1 (Theory Credit Hour = 3, Lab Credit Hours = 1)
Prerequisite	None
Course Coordinator	Not Specified

Course Objectives

The mobile application development industry provides exciting and attractive career opportunities. In this course, students will use Java programming language to build maintainable mobile applications. They will be introduced to the Android platform, Android SDK tools, and Android Studio, the development environment used to create Android applications. At the end of this hands-on course, the students will have sufficient command over concepts like UI design, graphics, multimedia, web services, and event handling in the context of mobile application development.

Catalog Description

CSC 455

Course Content

Session No.	Week No.	Topic	Suggested Readings (Chapters)
01-03	01	<ol style="list-style-type: none">1. Introduction to Android2. Understanding Android Architecture and Runtime Environment3. Installation of Android Studio4. Building Android First App (Hello World!)	(Phillips/Chapter 1) (Lecture Notes)
04-06	02	<ol style="list-style-type: none">1. Understanding the hierarchy of Android Project2. Using the tools (ADB, Emulator, Monitor and Debugger)	Lecture Notes
07-09	03	<ol style="list-style-type: none">1. Understanding LifeCycle of android App (Activity)2. Using Layouts, Basic widgets	Book Chapter (2, 3) and Lecture Notes
10-12	04	<ol style="list-style-type: none">1. Using Events to work with widgets2. Working with Intents (Implicit and Explicit)3. Creating apps with multiple activities4. Working with Intent Filter	Book Chapter (3, 4, 5) and Lecture Notes
12-15	05	<ol style="list-style-type: none">1. Understanding the state preferences2. Understanding state of an application, How to maintain it, and how to restore it.3. Create app based state preferences4. Create activity based shared preferences	Book Chapter (7) and Lecture Notes
First Mid Term Exam			
16-18	06	<ol style="list-style-type: none">1. Adding Menu Bars2. Working with the Media Player3. Camera and Implicit Intent working	Book Chapter (15) and Lecture Notes
19-21	07	<ol style="list-style-type: none">1. Working with File storage2. Reading / Writing files	Book Chapter (7, 8) and Lecture Notes

		3. Reading files from Raw and Online 4. Lists and other widgets 5. Working with Android Built In Database (SQLite)	
22-24	08	1. Working with Fragments 2. Creating swipe functionality along with fragments 3. Fragments using menu	Book Chapter (5) and Lecture Notes
25-27	09	1. Android Text to Speech 2. Android Speech to text	Book Chapter (11) and Lecture Notes
28-30	10	1. Working with Background Tasks 2. Using services 3. Bind service 4. Threads, AsyncTask and Handlers	Book Chapter (09) and Lecture Notes
Second Mid Term Exam			
31-33	11	1. Broadcast receivers 2. Working with UI Notifications 3. Static and dynamic broadcast receivers 4. Working with IPC using broadcast in services	Book Chapter (05, 09) and Lecture Notes
34-36	12	1. Content Providers 2. Reading Content Providers 3. Creating Content Provider	Book Chapter (8) and Lecture Notes
37-39	13	1. Working with Network based apps 2. JSON and XML parsing 3. MAPs and GeoCoding	Book Chapter (9) and Lecture Notes
40-42	14	1. Introducing Sensors 2. Working with accelerometer, gyroscope, light and proximity sensors 3. Working with SMS and Telephony 4. Introducing 2D Graphics 5. Exercises	Book Chapter (12) and Lecture Notes
43-45	15	1. Uploading app to the Android Google App Market	Book Chapter (19) and Lecture Notes
Final Exams			

Text Book

1. Android Programming - The Big Nerd Ranch Guide (3rd Edition) by Bill Phillips

Reference Material

1. The Busy Coder's Guide to Android Development (Final Version) by Mark L. Murphy
2. Head First To Android Development (by Ori'e'lly)

Course Learning Outcomes

	Course Learning Outcomes (CLO)
1	Design and develop Android device-specific, native applications
2	Describe the components and structure of a mobile development framework (Google's Android Studio)
3	Integrate database and server-side technologies to provide complete mobile development solutions
4	Analyze the working of android code.

CLO-SO Map

	SO IDs											
CLO ID	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12
CLO 1	0	0	1	0	0	0	0	0	0	0	0	0
CLO 2	1	0	0	0	0	0	0	0	0	0	0	0
CLO 3	0	0	1	0	0	0	0	0	0	0	0	0
CLO 4	0	0	0	1	0	0	0	0	0	0	0	0

Approvals

Prepared By	Adil Khan
Approved By	Not Specified
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