

Course Code	Course Title	L	T	P	C
BITE409L	Mobile Application Development	3	0	0	3
Pre-requisite	NIL	Syllabus version			
		1.0			
Course Objectives:					
1. To impart fundamental concepts of Mobile Application Development					
2. To design user interfaces for interacting with apps and triggering actions					
3. To identify options to save persistent application data					
Course Outcomes:					
1. Determine the design and development principles for mobile applications					
2. Implement interactive user interfaces that work across a wide range of devices					
3. Create, test and debug mobile application by setting up a development environment					
4. Analyse the Interface operations					
5. Propose methods for storing and retrieving data in mobile applications					
6. Analyse performance of mobile applications and understand the role of permissions and security					
Module:1	Introduction to Mobile Application	6 hours			
History of mobile devices -Mobile ecosystem -Designing for context - Developing a Mobile Strategy - Mobile Information Architecture - Mobile Design -Types of mobile application.					
Module:2	Integrated Development Environment	6 hours			
Exploring Development Environments - Installation - Creating a New Project – Architecture - The Manifest File- Activity Class – Types of Activity – Lifecycle of Activity.					
Module:3	Application Essentials	6 hours			
Components: Service, Broadcast Receiver, Content Provider - Application resources and assets -Resource Management - Managing Intents and Intent Filters.					
Module:4	UI Design & Operations	7 hours			
UI Elements - View Class - Creating Custom Views - Using Layout - Layout types – Fragments - Dialogs – Adapters: Listview, Gridview – Menu and its types.					
Module:5	Hybrid Mobile Applications	6 hours			
Native vs. Hybrid Mobile Applications – Building Blocks of Hybrid Applications – Development and Packaging Frameworks- Creating Hybrid Mobile Applications.					
Module:6	Services and Data Storages	6 hours			
Services – Service Lifecycle – Communicating with Services - Preferences- External storage – SQLite database – Firebase.					
Module:7	Securing Mobile Applications	6 hours			
Security Concepts: Signatures and Keys, Permissions, Protecting User data – Client-side Data Encryption – Key Chain Management – Device Management API.					

<b>Module:8</b>		<b>Contemporary Issues</b>		<b>2 hours</b>	
		<b>Total Lecture hours:</b>		<b>45 hours</b>	
<b>Text Book</b>					
1.	J F DiMarzio, "Beginning Android Programming with Android Studio", 4 <sup>th</sup> Edition, Wiley India Pvt. Ltd, 2016.				
<b>Reference Books</b>					
1.	Erik Hellman, "Android Programming – Pushing the Limits", 1 <sup>st</sup> Edition, Wiley India Pvt. Ltd., 2014.				
2.	Brian fling, Mobile Design and Development, 2009, 1 <sup>st</sup> Edition, O'Reilly Media.				
3.	Google Developer Training, "Android Developer Fundamentals Course – Concept Reference", Google Developer Training Team, 2017. <a href="https://www.gitbook.com/book/google-developer-training/android-developerfundamentals-course-concepts/details">https://www.gitbook.com/book/google-developer-training/android-developerfundamentals-course-concepts/details</a> (Download pdf file from the above link)				
4.	Dawn Griffiths and David Griffiths, "Head First Android Development", 1 <sup>st</sup> Edition, O'Reilly SPD Publishers, 2015.				
5.	Mahesh Panhale, "Beginning Hybrid Mobile Application Development", 1 <sup>st</sup> Edition, Apress, 2016.				
Mode of Evaluation: Continuous Assessment Tests, Assignment, Quiz, Final Assessment Test					
Recommended by Board of Studies				12-10-2022	
Approved by Academic Council				No. 68	Date 19-12-2022