



Type of course: Core

Prerequisite: Basic Knowledge of OOPS concept and Core java

Rationale: Mobile Application development is becoming need of the day as webpage development was about ten years ago. Most companies are developing their mobile applications so that customers may interact with them on mobiles itself. Android is most popular mobile operating system of today. Android application development course is therefore designed to enable the diploma information technology students to build mobile applications on this platform. This course covers the basics of Android along with required programming codes for developing necessary programming skills for mobile applications. Thus this course is an important course for Software Development students with possibilities of self-employment.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Content	Total Hrs.	Module % Weightage
1	Android Introduction- Smart phones future, What is android?, History and version, Preparing the Environment, Installing the SDK, Creating Android Emulator, Installing and Using Eclipse, Installing Android Development Tools, android manifest.xml, android R.java Android Architecture, Development with Android – Platforms, Tools, Say Hello to Android Application, Building Blocks of Android Application, Work with Activity, Activity Lifecycle,	10	30
2	Android UI And Component using Fragments: Create Android UI, Working with Layout, Create Custom Layouts, Work with UI Components and Events, Material Design Toolbar, Tab Layout, Intents, Implicit and Explicit Intents, Fragments, Fragment Lifecycle Basic Views- Recycler View and Card View, TextView,	12	30



	Button, Image Button, Check Box, Toggle Button, Radio Button etc., Progress Bar View and Auto Complete Text View, Time Picker and Date Picker View, List View, Image View, Image Switcher and Grid View, Digital Clock and Analog Clock Views Notification and Toast, Parameters Intents, Pending intents, Status bar notifications, Toast notifications		
3	Menus: Localization, Options menu, Context menu Dialogs: Alert dialog, Custom dialog, Dialog as Activity Orientation and Movement: Pitch, roll and yaw, Natural device orientation, Reference frame remapping SMS:- Sending and Receiving	10	20
4	Database Connectivity: Storage in Android, Shared Preferences, Shared Preferences Layout, Android Requesting Permission at run time (Android 6.0), Work with SD Card and Files Databases in Android: SQLite, Realm DB, ORMLite, Berkeley DB, Couchbase Lite Android SQLite: SQLiteOpenHelper class, Methods of SQLiteOpenHelper class, SQLiteDatabase class	10	20
	Total	42	100

Reference Books:

1. Beginning Android, Mark L Murphy, Wiley India Pvt Ltd
2. Professional Android, Sayed Y Hashimi and Satya Komatineni, Wiley India Pvt Ltd
3. Android in Action, Chris King, Robi Sen and W. Frank Ableson, Manning Publications
4. Learning Android, Ramesh Bangia, Khanna Publishing House

Suggested Specification table with Marks (Theory): (For BVOC only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	20	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes:

Sr. No.	CO statement	Marks % Weightage
CO-1	Understand Android architecture, activities and their life cycle.	30
CO-2	Apply the knowledge to design user interface using Android UI And Component	30
CO-3	Understand and Develop applications using menu and dialogue	20



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Bachelor of Vocation (B.Voc), 4th Semester

Branch: Software Development

Subject Name: Mobile Application Development-I

Subject Code: 21140202

**With effective
from academic
year 2022-23**

	box	
CO-4	Manage system database, remote database operations using web services	20

List of Open Source Software/learning website:

Students must refer to following sites to enhance their learning ability.

- <https://www.udacity.com/course/ud853>
- www.w3schools.com
- <https://www.eclipse.org/downloads/www.mysql.com>
- <http://www.codelearn.org/androidtutorial>