

Training Outlines

Training Program: Training for Mobile App Developer on Android Platform

Course Outline

Name of the Course	Time Duration
Mobile Application Development (Android)	Total Duration = 200 hrs. Demonstrations=180hrs. Project work=20hrs

I. Student Assessment Method:

- Online Assessment
- Exams
- Project Demonstrations

II. Assessor Requirements: Refer to training methodology

III. Certification System: Certificate of Competence & Certificate of Participation (see methodology for full details)

Time Distribution

Module No	Job Focused Module	Details	Hrs
1.	Revisiting JAVA & OOP	• Introduction to Android	2
		• Installing the Android Development Environment	2
2.	Revisiting JAVA & OOP	• Object-oriented Concepts	2
		• Java Basics	2
3.	Android Development Environment	• Creating a New Android Studio Project	1
		• Designing the User Interface	2
		• Adding a Form Widget	1
		• Creating Activities	1
		• The Android Manifest File	1
		• Testing in the Emulator	1
		• Opening a Saved App in Android Studio	1
4.	Android User Input, Variables, and	• Android Themes	2
		• Simplifying User Input	2

	Operations	• Declaring Variables	1
		• Working with Mathematical Operations	3
		• Displaying Android Output	2
		• Simple app using the module taught e.g: Calculator.	6
5.	Icons and Decision-Making Controls	• The Launcher Icon	1
		• RadioButton and RadioGroup Controls	3
		• Making Decisions with Conditional Statements	4
		• Different types of sensors	4
6	Android Lists, Arrays, and Web Browsers	• Creating a List and Using the onItemClick Method	4
		• Decision Structure - Switch Statement	4
		• Android Intents	1
		• Launching the Browser from an Android Device	3
		• Building layouts including XML, Views, ViewGroups etc.	4
		• Adding Multiple Class Files	2
		• Simple app using the module taught. E.g.: Things To Do, Report Card.	6
7	Implementing Audio in Android Apps	• Creating a Splash Screen	2
		• Designing the main.xml File	2
		• Playing Music	2
		• Creating a Raw Folder for Music Files	2
		• Using the MediaPlayer Class	2
		• Simple app using the module taught. E.g.: Simple MediaPlayer	6
8	Android Security	• Android security concept	2
		• Using and defining permissions	2
9	Android Networking and Background Tasks	• HttpURLConnection	4
		• JSON Parsing	4
		• AsyncTask Vs Loaders	4
		• Looper, Handler and Handler Thread	4
		• Network Communication using any Library (Retrofit)	4
		• Sending Email, SMS, Phone Call	4
		• Simple app using the module taught. E.g.: Weather Forecasting	4

10	Android Storage and ContentProvider	<ul style="list-style-type: none"> Using the SQLite database 	4
		<ul style="list-style-type: none"> Using and defining ContentProvider 	4
		<ul style="list-style-type: none"> Outlook: Loader 	2
		<ul style="list-style-type: none"> Firebase Cloud Storage, Database and Authentication 	2
		<ul style="list-style-type: none"> Firebase notification, analytics 	4
		<ul style="list-style-type: none"> AdMob Integration 	2
		<ul style="list-style-type: none"> Simple app using the module taught. E.g.: Quiz App using FireBase 	6
11	Services	<ul style="list-style-type: none"> Location and Map API 	4
		<ul style="list-style-type: none"> Marker, Marker Options and Clustering 	2
		<ul style="list-style-type: none"> Direction, Nearby Place API 	2
		<ul style="list-style-type: none"> Geocoder and Geofencing 	2
		<ul style="list-style-type: none"> Simple app using the module taught. 	6
12	Custom widgets and the canvas API	<ul style="list-style-type: none"> Defining custom widgets 	2
		<ul style="list-style-type: none"> Compound widgets 	2
		<ul style="list-style-type: none"> Canvas API 	2
		<ul style="list-style-type: none"> View state persistence 	2
13	Advanced Android Concepts	<ul style="list-style-type: none"> Meaningful Motion (Animation) 	4
		<ul style="list-style-type: none"> Gradle for Android 	2
		<ul style="list-style-type: none"> Espresso (Android Testing Support Library) 	2
		<ul style="list-style-type: none"> Adaptive Design 	2
		<ul style="list-style-type: none"> Android Wear (Create Wear Interface for Weather App) 	2
14	Android Application Deployment	<ul style="list-style-type: none"> Android Application Deployment on device with Linux and Windows 	1
		<ul style="list-style-type: none"> Android Application Deployment on Android Market 	1
15	Project work	<ul style="list-style-type: none"> 2 complete projects have to be completed and delivered for every student (First one is a group project and the last one is the individual project). 	20