



Electronics & ICT Academy

(Under Ministry of Electronics and Information Technology (MeitY), Government of India)

Indian Institute of Technology Guwahati, Guwahati, Assam, Pin 781039

Phone: +91-361-2582503, 2582536 Email: eictacad@iitg.ernet.in

Course Objective:

The participants are expected to have Knowledge of Java, Xml or any OOPs language.

Detailed Syllabus:

INTRODUCTION TO ANDROID DEVELOPMENT

- 1) Introduction
- 2) Android Architecture
- 3) Setting up Android Studio & Android SDK
- 4) Android Components

WORKING WITH ACTIVITIES, INTENTS, NOTIFICATIONS & MEDIA

- 1) Introduction
- 2) Activity Lifecycles
- 3) Intents
- 4) Notification Compact
- 5) Video View & Media Player

ANDROID LAYOUTS & WIDGETS

- 1) Introduction
- 2) Linear, Framework, Relative & Table Layouts
- 3) Date & Time Pickers
- 4) Radio Buttons & Check Boxes

CUSTOMISE VIEWS & IMPLEMENT EVENT RECEIVERS

- 1) Introduction
- 2) List Views, Grid Views & Recycler Views
- 3) System & Custom Broadcast Receivers

LOCATIONS & SENSORS

- 1) Introduction
- 2) Accessing Current Location on Map
- 3) Location Strategies
- 4) Map Fragment
- 5) Indicating Markers on Maps
- 6) Map Types

USING CONTROLS

- 1) Introduction
- 2) Working with Menus
- 3) Input Controls & Settings



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USING SQLITE DATABASE

- 1) Introduction
- 2) Using SQLiteOpenHelper
- 3) Datatypes
- 4) Methods for managing SQLite database

ANIMATIONS & SERVICES

- 1) Introduction
- 2) Creating & Managing the Bound Services
- 3) Communicating with Remote Service

BUILDING & TESTING

- 1) Introduction
- 2) Implementing & Releasing Builds
- 3) Testing Builds
- 4) Android Testing Tools

PUBLISHING TO GOOGLE PLAY STORE

- 1) Introduction
- 2) Services
- 3) Publishing to Play Store
- 4) Managing the applications

The Theoretical and Practical sessions will be conducted simultaneously. The participants will be trained thoroughly to work on widgets, spinners, views, audios, videos, SQLite database and finally publish their own app on the Google Play store.

Assignment and Project:

1. Assignments will be of the following type:
 - MCQ based questionnaire.
 - Programming Assignments.
2. At the end of the course “Project” will be assigned to the participants which would be an application development along with demonstration of the tools usage.

Following are the details of the Project modules based on Real World scenarios:

A) Ecommerce - modules

- Login
- Display of Categories and Products
- Add to cart and Checkout

B) Food Order System – modules

- Login
- Display of different menus
- Placing order using Google maps.



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Course Outcome:

The participants will be given a thorough understanding of the following topics:

- Using the basic Android Development tools for mobile apps, like:
 - 1) Android Studio
 - 2) DDMS
 - 3) Drawables
 - 4) Listeners etc.
- Utilising multiple Widgets and Layouts in Android applications.
- Creating interactive applications.
- Working with multimedia files (audio, video & notifications).
- Creating applications using the SQLite database.
- Fundamentals of event handling in Android.
- Publishing your app on Google Play Store.