



# Course Outline: App Development with Java

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## Course by:

**Sheikh Kamal IT Business Incubator, CUET**  
Chattogram-4349, Bangladesh.

## Course Summary

No.	Subject	Comments
1	Course Duration	48 Hours (16 Classes, 8 Weeks)
2	Pre-requisites	Not necessary
3	Lab Facilities	SKITBI, CUET will provide.

## Schedule

**Batch - 01 (Offline): Sunday & Tuesday 10 am to 1 pm**

**Batch - 02 (Online): Sunday & Tuesday 3 pm to 6 pm**

## Coordinator

**Professor Dr. M. Moshiul Hoque**

Professor, Dept of CSE, CUET

Director, Sheikh Kamal IT Business Incubator in CUET

Former Dean, Faculty of Electrical & Computer Engineering, CUET

Chair, IEEE Bangladesh Section

## Trainers

**Ratul Bhowmick**

Senior Software Engineer,  
Programming Hero

**Tanvir Ibn Touhid**

Senior Software Engineer,  
Diligite Ltd.



## What will you learn?

Upon completion of this 40-hour crash course, participants will have gained:

- Foundational Knowledge:
  - Android development ecosystem
  - Java programming for Android
- Building Android UI:
  - Creating and styling UI components
  - Navigation between activities and screens
- Advanced Android Development:
  - RecyclerViews for efficient lists
  - Data persistence and local databases
  - Network requests and JSON parsing
- Fragments and Layouts:
  - Understanding and implementing fragments
  - Creating multi-pane layouts
- Background Processing:
  - IntentService for background tasks
  - Android services for long-running operations
- Notifications and Broadcasts:
  - Creating and handling notifications
  - Broadcasting and receiving system-wide events
- Location and Maps Integration:
  - Accessing device location
  - Integrating maps in Android apps
- Deployment and Publishing:
  - Preparing apps for deployment
  - Publishing to the Google Play Store
- Project Development and Optimization:
  - Hands-on experience building a complete Android app
  - Performance optimization strategies
  - Advanced Android Studio features for refinement

## Course Modules

### Java & Version Control:

Module	Topics Covered	Duration
Module 1: Basic Knowledge of Java Programming	-Understanding of variables, data types, and basic operators in Java -Control structures: if statements, loops -Functions, classes, and object-oriented programming in Java	8 hours



Module 2: Experience with Version Control	-Basic Git commands (clone, commit, push, pull) -Familiarity with GitHub or GitLab	2 hours
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**Introduction to Android Development:**

Module	Topics Covered	Duration
Module 1: Introduction to Mobile App Development with Java	-Overview of the Android development ecosystem -Importance of native app development	2 hours
Module 2: Setting Up the Development Environment	-Installing Android Studio -Configuring Android Virtual Devices (AVDs) -Overview of Android Studio interface	2 hours
Module 3: Basic UI Components and Layouts	-Introduction to XML layout files - Working with TextView, Button, EditText, and other basic UI components -Understanding layout managers	2 hours
Module 4: Handling User Input and Navigation	-Responding to user interactions with event handling -Implementing navigation between screens and activities	2 hours
Module 5: Working with Lists and Adapters	-Implementing RecyclerView for efficient list handling -Creating custom adapters for data binding	2 hours
Module 6: Data Persistence in Android	-Working with SharedPreferences for simple data storage -Introduction to SQLite for local database storage	2 hours
Module 7: Networking and Web APIs	-Making HTTP requests with AsyncTask or Volley -Parsing JSON data from web services	2 hours



Module 8: Fragments and Multi-pane Layouts	-Understanding fragments and their lifecycle -Implementing multi-pane layouts for larger screens	2 hours
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**Advanced Topics in Android Development:**

<b>Module</b>	<b>Topics Covered</b>	<b>Duration</b>
Module 1: Background Processing and Services	-Implementing background tasks with Intent Service -Understanding Android services for long-running tasks	2 hours
Module 2: Notifications and Broadcast Receivers	-Creating and handling notifications -Broadcasting and receiving system-wide events	2 hours
Module 3: Location and Maps Integration	-Accessing device location using GPS or network -Integrating Google Maps in Android apps	2 hours
Module 4: Deployment and Publishing	-Preparing the app for deployment, -Publishing the app to app stores	2 hours
Module 5: Building a Complete Android App	-Guided hands-on project development -Incorporating learned concepts into a practical project	2 hours
Module 6: Performance Optimization	-Identifying and resolving performance bottlenecks -Strategies for optimising UI responsiveness	2 hours
Module 7: Project Refinement and Q&A	-Reviewing and refining the project, -Addressing common challenges and questions	2 hours



## **Frequently Asked Questions (FAQ)**

### **Can I register for multiple courses?**

-Yes, participants can register for multiple courses.

### **Will there be an overlap in class schedules for multiple courses**

-There may be minimal overlap in class schedules, Please check the routine available at the notice board.

### **What are the available payment methods for online enrollment?**

-Payment can be made via cash or online using the "Bkash to Bank" option.

### **Are there evening batches available for job holders?**

-Yes, evening batches will be available. Please check the routine available on the notice board of the website.

### **Can I switch between online and offline classes?**

-Online and offline classes are separate batches, and transfer depends on seat availability.

### **How will admission be confirmed?**

-Admission will be confirmed upon payment; no separate admission exam will be conducted.

### **Will classes be conducted in locations other than the chosen one?**

-No, classes will only be conducted at the chosen location, not in other cities.

### **What is the profile of the trainers?**

-Faculty members will include both academic and industry experts.

### **What is the last date of enrollment?**

-There is no last date of admission. After filling out the batches, enrollment will be closed.

### **Can I admit physically?**



**Shaikh Kamal IT Business Incubator**  
Chittagong University of Engineering & Technology (CUET)



-Yes, Come to the third floor (Room no: 301,302) at the Multipurpose Building of Sheikh Kamal IT Business Incubator, CUET.

**Will classes be held during Ramadan?**

-Yes, they will.

**Will a recorded version be available?**

Yes, you will get lifetime access to the recorded version of the classes.