



# **Mobile App Development Training Content**

I. Android App I	Development	(Java/Kotlir	ገ)
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Module 1: Introduction to Android
<ul> <li>Overview of Android and its architecture</li> <li>Setting up the development environment (Android Studio)</li> </ul>
☐ Understanding Android versions and compatibility
☐ Creating your first Android project
Module 2: Core Android Components
☐ Activities and lifecycle
☐ Intents (Explicit and Implicit)
☐ Fragments and lifecycle
☐ Layouts and Views
☐ Event handling
Module 3: Advanced UI/UX Design
☐ Material Design principles
☐ RecyclerView, CardView, and Adapters
$\hfill \square$ Navigation drawer, Tab layout, and Bottom navigation
☐ Custom Views and animations
☐ Responsive UI for multiple screen sizes





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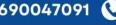


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Module 4: Data Management
☐ Shared Preferences
☐ SQLite Database integration
☐ Firebase Realtime Database and Firestore
$\square$ REST APIs and JSON parsing
Module 5: Advanced Topics
☐ Notifications (Push and local)
☐ Location-based services (Google Maps integration)
☐ Camera and media handling
☐ Publish the app on Google Play Store

# 2. iOS App Development (Swift)

#### **Module 1: Introduction to iOS**

Overview of iOS and Apple ecosystem
Setting up Xcode and the iOS simulato
Swift basics and best practices

### **Module 2: User Interface Development**

Storyboards and Interface Builder
Auto Layout and Constraints
UIKit and SwiftUI components





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Module 3: Core Data and APIs	
☐ Data persistence with Core Data	
☐ Networking with URLSession	
☐ Parsing JSON APIs	
Module 4: Advanced Features	
☐ Push notifications with Firebase	
$\square$ App extensions (Widgets, Siri integration)	
☐ Submitting apps to the App Store	

## 3. Cross-Platform App Development

#### **Module 1: Introduction to React Native**

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- ☐ Setting up the development environment
- ☐ JSX and Components in React Native

### **Module 2: State Management**

- ☐ React Hooks and Context API
- ☐ Redux for state management





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Module 3: UI and Navigation
☐ Styling with CSS-in-JS
☐ React Native Navigation and Stack Navigator
☐ Creating reusable components
Module 4: API and Backend Integration
☐ Axios and API calls
☐ Integration with Firebase
Module 5: Advanced Topics
☐ Native modules in React Native
☐ Debugging and testing apps
☐ Publishing to Google Play Store and Apple App Store

## **4. Flutter App Development**

### **Module 1: Introduction to Flutter**

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☐ Setting up Flutter SDK and IDE





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Module 2: Flutter Basics
☐ Widgets and layout system
☐ State management with Provider/Bloc
Module 3: Data and Backend
☐ Handling local data (SQLite, Shared Preferences)
☐ Firebase integration (Firestore, Authentication)
Module 4: Advanced Topics
☐ Animations and custom designs
☐ App localization
☐ Deploying apps on Android and iOS
5. Capstone Projects
☐ E-commerce app
$\square$ Social media app
$\square$ Food delivery app
☐ Chat application
☐ Custom project based on student choice





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