

Mobile Application Development

Credit Hours: 3

Class duration: 90 mins

Requirements:

1. Laptop with suitable performance
(Preferably 256 GB SSD, 8-16 GB RAM, Core i7 > 6th generation)
2. Android Phone (Version > 8)
3. Quizzes: minimum 3 (10%)
4. Assignments: minimum 3 (10%)
5. Mid (20%)
6. Final (60%)

Week 1

1. Introduction to Android OS
2. Introduction to Android Studio (Installation, Emulator, etc.,)
3. Languages support in Android Studio (Java, Kotlin)

Week 2

1. Android OS Layers, OHA, API Levels, APK, Delvik Virtual Machine, Gradle Build System
2. Android Studio Ecosystem (Java, Res, Plugin Installation, Emulator, AndroidManifest.xml, Permissions, etc.,)

Week 3

1. Android Components (Activity, Services, Content Providers, Broadcast Receivers, Widget, Containers, and Resources)
2. Working with Activity (Activity front and back-end, Orientation, Lifecycle)
3. Changing App Icon

Week 4

1. Working with Android UI Widgets
(TextView, EditText, Button, Toast, Snackbar, CheckBox, RadioButton, Spinner, AlertDialog, AutoCompleteTextView, RatingBar, Date and Time Picker, ProgressBar, ImageView)

Week 5

1. Working with Layouts (Linear, Relative, Constraint, etc.,)
2. Menus
3. Themes

4. Working with Resources
 - a. Values (Strings, Colors)
 - b. Fonts

Week 6

1. ListView
2. Custom ListView

Week 7

Fragments

Week 8

Intents (Implicit, Explicit)

Week 9 (Mid-term examination)

Week 10

SharedPreferences

Week 11

Services

Week 12

Notifications

Week 13

Firebase (Authentication)

Week 14

Firebase (Firestore)

Week 15

Revision

Reference Books:

1. Android App Development in Android Studio, Java + Android Edition for Beginners 2017
2. Android Programming: The Big Nerd Ranch Guide 2017
3. Android Studio 3.0 Development Essentials - Android 8 Edition 2017
4. Beginning Android Programming with Android Studio Wrox 2017
5. The Busy Coders Guide Android - Final Version 2019