**MOBILE APPLICATION DEVELOPMENT**

**COURSE OUTLINE**

**Lesson 1: Introduction to Kotlin**

* 1. Kotlin Advantages
  2. How Kotlin Programs Work
  3. Kotlin Software Prerequisites
  4. Installing Java JDK and JRE
  5. Installing Android Studio
  6. Creating Kotlin Project Using Android Studio Creating a Kotlin Program
  7. Running a Kotlin Program
  8. Writing Comments
  9. Kotlin Variables
  10. Kotlin Data Types
  11. Input of Information to Kotlin Program

**Lesson 2: Control Flow Statements**

2.1 If Statement

2.2 If – Else Statement

2.3 If Else and Logical Operators

2.4 When Statement and Expression

2.5 For Loops

2.6 While Loops

2.7 Do-while Loops

2.8 Return Statement

**Lesson 3: Functions & Object-Oriented Programming (OOP)**

3.1 Functions

3.2 Function Structure

3.3 Creating a Function

3.4 Functions and Variable Scope

3.5 Object-Oriented Programming (OOP)

3.6 Object

3.7 Class

3.8 Creating a Class

3.9 Android Application Development Providing Constructors for Your Classes

3.10 Class Inheritance

3.11 Overloading Constructors

3.12 Overriding Properties

3.13 Abstract Class

3.14 Interface Class

3.15 Generic Class

3.16 Enum Class

3.17 Class Variables

3.18 Member Variables

3.19 Kotlin Collections

3.20 Class Hashmaps

3.21 Class ArrayList

3.22 Method mutableListOf

**Lesson 4: Android Framework and Android Studio**

4.1 Android Platform Architecture

4.2 Android Libraries

4.3 Components of Android Application

4.4 Types of Android processes and their priorities

4.5 Android Application Development

4.6 Android SDK platform

4.7 Integrated Development Environment (IDE)

4.8 Android Studio

4.9 Gradle

4.10 Instant Run

Lab 4: Creating Your First Application

4.11 Create an Android Virtual Device

4.12 Build a Blog Application

**Lesson 5: Creating User Interface UI**

5.1 Android Project Structure

5.2 View

5.3 Creating User Interface

5.4 Add a text box

5.5 Add an Image

5.6 Create Your Application User Interface

5.7 Run Your Application

**Lesson 6: Android Layouts, Styles, Theme and Menus**

6.1 Views

6.2 Layouts

6.3 Constraint Layout

6.4 Linear Layout

6.5 Frame Layout

6.6 ScrollView Layout

6.7 Android Styles and Themes

6.8 Android Styles

6.9 Android Themes

6.10 App Manifest

6.11 Adaptive Icons

Lab 6: Android Application Layouts, Styles, and Themes

6.12 Create Your Application Layout

**Lesson 7: Toasts, Activities, Navigations, and Views Context**

7.1 Toast Class

7.2 Positioning Your Toast

7.3 What is an Activity?

7.4 Activity Lifecycle

7.5 Managing the activity lifecycle

7.6 Android Intent

7.7 Navigating Between Activities

7.8 Passing Data Between Activities

7.9 Android Views

7.10 RecyclerView

7.11 Adding a RecyclerView to an Activity

7.12 Creating a CardView

7.13 Creating Your RecyclerView Adapter

7.14 Adding Data to Your RecyclerView

7.15 Running and Testing Your RecyclerView

7.16 Adding Event Listeners to Each RecyclerView Row

7.17 Snackbar

7.18 Menus

**Lesson 8: Android Storage, SQLite and Content Providers Android Storage Options**

9.1 Shared Preferences

9.2 Internal Storage

9.3 External Storage

9.4 Network Connection

9.5 Room Database (SQLite)

9.6 Room Database in your application

**Lesson 9: Firebase**