

**Sharda University, Uzbekistan**

**One Year Skill Development Certification Course**  
**On**  
**Android App Development**

**Course Description:** In this course, basic knowledge of java and android development will be delivered. Hands-on experiments for Simple android app development will be given. Working on android studio

**Objective of the course:** The programme uses a blend of lectures and experiential learning tools to provide expertise in ideation, design, development, and deployment of Android Applications. The course will provide hands-on experiential learning using Android Studio. This course will enable the student to build basic android apps.

**Outcome of Course:** Upon successful completion of the program, the students will be able to:

- Use android studio for app development
- Understand the concept of java & android programming
- Recognize the components of android programming
- Explain the Concept of Intents
- Develop Concept of android database
- Create basic android app

**Eligibility: 11th or 12th Pass Students**

**Duration: One Year**

**Motivation:** The students will undergo two-week capstone project where they will design and build android app, under the supervision of Sharda University, School Faculty. The students will experience the interactive sessions followed by responsive Q & A. After the completion of the course, the students will be able design some Android App.

**Career Opportunities:** The course is designed for aspirants who wish to gain insight into Android app development as career. There are various opportunities in IT sectors, Telecom, Agriculture, Automotive, Energy, Manufacturing etc. Now a days, android is used in almost every field.

## Course Content of Android App Development-I:

### Term -1

#### Unit1: Introduction to Java fundamentals

Introduction: introduction of java, class, object, constructor

Hands on java fundamental

- a. Create a program to find the sum of odd numbers between 10 to 20.
- b. Write a program in java to convert temp from Celsius to Fahrenheit.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### Unit2: Array, String

Arrays, creating array, accessing array elements, updating array

String , string manipulations, string functions.

Hands on Array, String

- a. Create a program to find the sum of all elements of array.
- b. Write a program in java to concatenate two strings.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### Unit 3: Function and Inheritance

Function :- function creation, type of function, return type of function, function call

Inheritance :- types of inheritance, overriding, super

Hands on Function and Inheritance

- a. Write a function to find sum of n numbers where n is pass as parameter
- b. Write a program to create a super and sub class.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit 4: Introduction to Android**

Introduction to android, android studio, android directory structure

Hands on Android App

- a. Installation of android Studio
- b. Create a hello world app.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit 5: Android Activity**

Android activity, activity lifecycle, activity lifecycle methods

Hands on Android Activity

- a. Write a android program to create welcome user app
- b. Write a android program to create a calculator.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Project**

Duration in Weeks: 04

#### **References (Books/ Video Lecture Link etc):**

- Java 8” by R Nageswara Rao and DT Editorial Services, “Java Programming Interviews Exposed (WROX)”
- W.M Lee, “Beginning Android 4 Application Development”,Wiley
- Retro Meier, ”Android 4 Application Development”,Wiley

## **Course Content of Android App Development-II:**

### **Term -2**

#### **Unit1: Android GUI fundamental**

Layouts, View Hierarchy , Views, EditText, TextView, radioButton, checkbox etc

Hands on Android GUI fundamental

- a. Create a program of calculator and print the result in editText.
- b. Create a program that take one number as input and give the result according to selection of function.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit2: Intents**

Introduction of intents , type of intents, Sending and receiving the values from one activity to another activity

Hands on Intents

- a. Create a multiple activity quiz app.
- b. Create a survey app

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit 3: Android Database**

Introduction to Sqlite, storing and reading values from database

Hands on Android Database

- c. Write a android program to store information of 3 students
- d. Write a program to fetch the student information form database

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit 4: Notification**

Toast, dialog and status bar

Hands on Notification

- a. Write a program to create a dialog notification
- b. Write a program to create a status notification

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Unit 5: Styles And Themes**

Creating and Applying simple Style, Using Styles as themes.

Hands on Styles And Themes

- c. Write a android program to apply a style to an app
- d. Write a android program to create a theme for calculator app.

Duration in Weeks: 02

Duration in Hours per week: 02 (T) 04 (P)

#### **Project**

Duration in Weeks: 04

#### **References (Books/ Video Lecture Link etc):**

- Java 8” by R Nageswara Rao and DT Editorial Services, “Java Programming Interviews Exposed (WROX)”
- W.M Lee, “Begning Android 4 Application Development”,Wiley
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