ELYSIUM ACADEMY®

Milestone of Cognizance

Since 2007

VERSION 2.0

PROFESSIONAL

ELYSIUM ACADEMY MOBILE APP DEVELOPER – ANDROID

ELYSIUM ACADEMY MOBILE APP DEVELOPER – ANDROID

SR. CODE

EAPL/PROF/PRTC11

COURSE CODE

EAPAD

SUB CATEGORY

MOBILE APP DEVELOPMENT

TOTAL DURATION	THEORY TAKEN	PRACTICAL TAKEN
90 HOURS	13 HOURS	77 HOURS

ELYSIUM ACADEMY MOBILE APP DEVELOPER – ANDROID

COURSE DESCRIPTION

Google created Android, which is used in many smartphones and tablets all around the world. By the number of active devices, it is the most extensive operating system in the world. There are already more than 2.5 billion active Android users in close to 190 different nations. The Android market is rapidly expanding, and recent graduates are enthralled by the courses taught in android development. However, you must be familiar with the course's syllabus and other pertinent information before enrolling in the android development programme.

COURSE GOALS

First and foremost, the professional course in Android app development can be completed concurrently with graduation or afterward. Android's primary focus is on app development.

FUTURE SCOPE

The demand for the number of developers is expected to increase from 17% to 24% by the year 2026. The world is fast-forwarding towards a digital era where everything is connected to the internet and vice versa. Things nowadays happen at the finger tap of the screen.

ELYSIUM ACADEMY®
Milestone of Cognizance

Since 2007

01
CHAPTER

CORE JAVA

2.5 HRS

6.5 HRS

01. Java Basics

a. Java Introduction
b. Features of Java
c. Keywords, Literals, Comments
d. Data Types
e. Operators

02. Object Oriented Programming Language

a. Introduction to object Oriented Programming Language
b. Creating the object using Constructor
c. this Keyword
d. Methods
e. Scanner class
f. Constructor
g. Overloading Method
h. Method overriding
i. Final keyword
j. Super keyword
k. Runtime Polymorphism
l. Abstract classes and methods
m. Interface
n. Packages
o. access modifications

03. Arrays

a. Single Dimensional Array
b. Multi-dimensional Array

04. Strings

a. Immutable String
b. Concatenation
c. Numbers and String
d. Special Characters

05. Exception Handling

a. What are Exception?
b. Types of Exception
c. Try catch-Block
d. Multiple catch Block
e. Nested try
f. Finally Block
g. Throw keyword

02 CHAPTER

INTRODUCTION TO ANDROID AND RECYCLER VIEW

1.5 HRS
4.5 HRS

01. Introduction to Android

a. What is Android?
b. Setting up development environment
c. Android Architecture
d. Android Component
e. Dalvik virtual machine & .apk file extension
f. First Android App

02. Basic Building Block

a. Activities, Services, Broadcast Receivers & content provider

b. UI Components – views & notification
c. Intent and Bundle passing

03. Application structure

a. AndroidManifest.xml
b. uses-permission & uses –SDK
c. Resources & R.java
d. Assets
e. Layout & Drawable Resources
f. Activities and activity lifecycle

03 CHAPTER

EMULATOR ANDROID VIRTUAL DEVICE & BASIC UI DESIGN

01 HRS
04 HRS

01. Emulator Android Virtual device

a. Launching Emulator
b. Editing Emulator Setting
c. Emulator shortcuts
d. Adding New Emulator
e. Logcat usage
f. Introduction to DDMS
g. Android Device Monitor

02. Basic UI Design

a. Form widget
b. Text Fields
c. UI screen components
   - Main Action bar
   - View Control

- Content Area
- Split Action Bar

d. Types of Layout
- Linear Layout
- Absolute Layout
- Table Layout
- Frame Layout
- Relative Layout

e. Unit of Measurements - [dip, dp, sip, sp] versus px

04
CHAPTER

PREFERENCES, MENUS, INTENTS AND ACTIVITY

1.5 HRS

01. Preferences

a. Shared Preferences
b. preferences from xml
c. APIs – accessing preference
d. Methods in shared preference

5.5 HRS

02. Menu

a. Option menu and app bar
b. Context menu and contextual action mode
c. Popup menu
d. Sub menu
e. Menu from xml
f. Menu via code

03. Intents

a. Types of intent
b. Explict intents
c. Intent Filter

d. Implicts intents

04. Basic UI Design

a. Activity Life Cycle

b. Configuring the Manifest

c. Managing the Activity Life cycle

d. Start Activity for Result

e. Share App data

05
CHAPTER

STYLES & THEMES, CONTENT PROVIDERS

1.5 HRS

6.5 HRS

01. Styles and Themes

a. Styles.xml

b. Structure of a style

c. Style hierarchy

d. Drawable resources for shapes, gradients (selectors)

e. Style attribute in layout file

f. Applying themes via code and manifest file

02. Content Provider

a. SQLite Programming

b. SQLiteOpenHelper

c. SQLite Database

d. Working of content provider

e. Method of content provider

d. Cursor

e. Reading and Updating contacts

f. Reading bookmarks

ELYSIUM ACADEMY®
Milestone of Cognizance

Since 2007

06
CHAPTER

LINKIFY , ADAPTER & WIDGETS

01 HRS
06 HRS

01. Linkify

a. Web URLs, Email address, text, Map Address
b. Phone numbers
c. Match filter & Transform filter

02. Adapter and Widget

a. Adapters
   - ArrayAdapter
   - Baseadapter
b. Adapter views
c. Types of Adapter
d. ListView and Listactivity
e. Custom listview
f. Expandable listview
g. GridView using adapter
h. Gallery using Adapter

07
CHAPTER

NOTIFICATIONS , CUSTOM COMPONENTS & MULTITHREADING

01 HRS
05 HRS

01. Notifications

a. Creating and sending notification
b. pending intent notification
c. Notification with action button
d. Broadcast Receiver
e. Services and Notification

f. Performance and Memory Management

g. Android Notification and Alarms

02. Custom Components

a. Custom Tabs

b. Custom Animated popup panels

03. MultiThreads

a. Thread

b. Running on UI thread

c. Handler & Runnable

d. Multithreading
(My splashscreen, stopwatch, ThreadHandler)

e. Examples

08
CHAPTER

ADVANCED ANDROID FEATURES & SERVICES

01 HRS
04 HRS

01. Advanced Android Features

a. Live Folders

b. Using cards

c. XML and JSON Parsing

d. Enable device networking info reporting

e. Manually updating user location

f. Accessing Phone services (Call, SMS, MMS)

g. Network connectivity services and Set offline

h. Referral Tracking

02. Services

a. Android Service Overview

b. How to implement a service

c. Life Cycle of Services

d. Types of Services

e. Communication : Inter - Process

09 CHAPTER

MULTIMEDIA , LOCATION-BASED SERVICES & GOOGLE MAP

01 HRS

4.5 HRS

01. Multimedia

a. Audio File Supported by Multimedia

b. Playback Media-Simple

c. Video Formats

d. Mobile Agent and Peer to Peer Architecture

02. Local – Based Services & Google Map

a. Geo Coding and Reverse Geo Coding

b. Intent Services

c. To Get Location in an Android Apps

d. To Track user's Location (Latitude, Longitude and Address)

e. Google API Console

f. To create Google Map API Key

g. Google places API Key

10 CHAPTER

SENSORS, WIFI & TELEPHONIC SERVICE

01 HRS

5.5 HRS

01. Sensors

a. How Sensors work

b. Using Orientation & Accelerometer sensors

c. Motion Sensor

d. Environmental Sensor

e. Position Sensor

O2. Wifi

a. Monitoring and managing Internet Connectivity
b. Managing active connection
c. Managing WiFi networks

O3. Telephony Service

a. Making calls
b. Monitoring data connectivity and activity
c. Accessing phone properties and status
d. Controlling the phone
e. Sending messages
f. Wireless Connectivity and Mobile Apps

11 CHAPTER

GRAPHICS , CAMERA & BLUETOOTH

1.5 HRS
6.5 HRS

O1. Graphics

a. 2D graphics
b. 3D graphics
c. Performance and Multithreading
d. Graphics and UI Performance

O2. Camera

a. Taking Pictures
b. Media Recorder
c. Using Existing Android Camera Application
d. Directly using Camera Application

O3. Bluetooth

a. Controlling local Bluetooth device
b. Discovering and bonding with Bluetooth device

c. Scan for Other Bluetooth Device

d. Connect to other devices through service discovery

12 CHAPTER

TESTING & DEBUGGING ANDROID APPLICATION

1.5 HRS

07 HRS

01. Fundamental of testing in Android App

a. Fundamental of Testing

b. Testing Tools in Android

c. Types of test in Android

d. Security with HTTPs and SSL

e. Dependency Injection

02. AndroidX Test Libraries

a. Set up project for AndroidX Test

b. Unit4 rules with AndroidX Test

c. Android JUnit Runner

e. Dalvik Debug Monitor server – It's Role and use(DDMs)

f. Android Application and Debugging

g. The use of Filters, Breakpoints, Suspend and Resume

03. Espresso

a. To Setup Espresso for functional Testing

b. Espresso cheat seat

c. To Create custome matcher in Expresso

e. Testing Recycler view with Expresso

f. Espresso Resource Idling

g. Multiprocess Espresso

h. Espresso Web

ELYSIUM ACADEMY®
Milestone of Cognizance

Since 2007

13 CHAPTER

BASICS OF ANDROID SECURE CODING

02 HRS

6.5 HRS

01. Introduction

a. Securing tips

b. Storing data

02. Using Networking

a. Security with Network Protocols

b. Types of Connectivity

c. Network security configuration

d. Networking Libraries (volley,OKHttp,etc.,)

c. Update your security provider to protect against SSL exploits

d. SatetyNet safe browsing API

e. Media Loders (Picasso, glide ,etc.,)

03. Android permissions

a. Workflow for using permission

b. Types of permission

c. Broadcast receiver

04. Protect data at Rest

a. Work with data more securely

b. Cryptography

c. Android keystore system

05. Security

a. APK Attack Surface

b. Application Obfuscation

c. Mobile Application Security Scanner

ELYSIUM ACADEMY®
Milestone of Cognizance

Since 2007

Placement Assistance 100%

135+ Professional Courses

Practical Sessions 90%

67+ Global Pacts

Corporate Placements 65%

170+ IT Companies Tie-Up

ELYSIUM GROUP OF COMPANIES

ELYSIUM ACADEMY PRIVATE LIMITED

Authorized International Partners

Microsoft · CompTIA · Cisco · aws · Google · SUSE · Rocheston · C++