

Course : Android Application Programming
Duration : 120 hrs

Module 1:

Object Oriented Programming Concepts

- Introduction to Object-Oriented Programming
- Object-oriented Design
- Classes and Methods
- Abstraction and Inheritance
- Multiple Inheritance and Interfaces
- Polymorphism
- Overloading
- Overriding
- Polymorphic Variable
- Generics
- Frameworks and Reflection
- Patterns

Module 2:

Fundamentals of Java

- Introduction to Java
- Application Development in Java
- Variables and Operators
- Decision-Making Constructs
- Looping Constructs
- Classes and Objects
- Methods and Access Specifiers
- Arrays and Strings
- Modifiers and Packages
- Inheritance and Polymorphism
- Interfaces and Nested Classes

- Exceptions
- Stream API
- More on Functional Programming
- Additional Features of Java 8

Module 3:

Object Oriented Programming with Java

- Exceptions and Assertions
- java.lang Package
- Collections API
- Generics
- File Handling in Java
- New Features in File Handling
- Introduction to Threads
- Multithreading and Concurrency
- JDBC API
- Advanced JDBC Features
- Design Patterns
- Internationalization and Localization
- Advanced Concurrency and Parallelism
- Java Class Design and Advanced Class Design
- Effective Programming with Lambda

Module 4:

UI/UX for Mobile Development

- Introduction to User Interface Design
- Introduction to User Experience Design
- Understanding Responsive Web Design
- Understanding the Strategies for Responsive Web Design
- Using Common RWD Patterns in Mobile Designs
- Usability Studies in Responsive Web Design
- User Interface and User Experience for Mobile Devices

Module 5: Developing Mobile Applications using Android

- Introduction to Android
- Getting Started with Android
- Android System Overview
- Android User Interface (UI)
- More UI Elements
- Media Handling
- Data Handling and Content Providers
- Services, Broadcast Receivers, and Intent Filters
- Google API
- Web Services in Android
- Wireless and Networking
- Telephony, SMS, and VoIP
- Sensors
- Google Play Store
- Android Studio 2.1 and Android 6.0 Marshmallow
- Material Design
- Android Interface Definition Language
- Android Native Development Kit (NDK)

Module 6: Securing Android Apps

- Introduction to Software Testing
- Android Testing Framework
- Components Used for Creating Test
- Android Testing Environment
- Testing Android Projects
- Testing for Different Situations