



IOS DEVELOPMENT

e-Learning Course

ZETLAN TECHNOLOGIES

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COURSE MODULES

Module 1: Introduction to iOS Development

- Overview of iOS and Apple Ecosystem
- Xcode and Interface Builder Overview
- Swift Programming Basics
- Understanding iOS Architecture
- Setting Up a Development Environment

Module 2: Swift Programming Language

- Data Types, Constants, and Variables
- Control Flow (Loops, Conditionals)
- Functions and Closures
- Object-Oriented Programming in Swift
- Protocols and Extensions
- Memory Management and ARC

Module 3: User Interface (UI) Design

- Storyboards and Auto Layout
- Views and View Controllers
- UI Elements (Buttons, Labels, TextFields, etc.)
- Stack Views and Adaptive UI Design
- Working with Dark Mode and Dynamic Type

Module 4: Advanced UI & User Experience (UX)

- Table Views and Collection Views
- Gestures and Touch Handling
- Animations and Transitions
- Working with Custom UI Components
- Implementing Navigation and Tab Bars

Module 5: Data Management & Storage

- UserDefaults and Property Lists
- Core Data and SQLite
- File Handling and Document Directory & Working with CloudKit
- Integrating Firebase Database

Module 6: Networking & API Integration

- Introduction to RESTful APIs
- Making Network Calls using URLSession
- Handling JSON Data with Codable
- Using Third-Party Libraries (Alamofire, SwiftyJSON)
- WebSockets and Real-time Data

Module 7: Working with Hardware & Sensors

- Accessing Camera and Photo Library
- Using Core Location for GPS & Maps
- Accelerometer and Gyroscope
- Push Notifications (APNs & Firebase)
- Face ID & Touch ID Authentication

Module 8: SwiftUI Development (Modern UI Framework)

- Introduction to SwiftUI
- Creating Views and Modifiers
- Data Flow with State, Bindings, and Environment
- Working with Lists and Grids
- Animations and Gestures in SwiftUI

Module 9: Advanced Topics in iOS Development

- Background Processing & Multithreading (GCD & NSOperation)
- Dependency Injection & MVVM Architecture
- Working with Combine Framework
- Debugging & Performance Optimization
- Security and App Privacy

Module 10: App Deployment & Distribution

- Preparing for App Store Submission
- App Signing and Provisioning
- Understanding App Store Guidelines
- Beta Testing with TestFlight
- Monetization Strategies (In-App Purchases, Ads)