



Course Outline: NTAP102 – Advanced iOS App Development Using Swift and UIKit

Course Overview

This advanced-level course is designed to deepen participants' expertise in building sophisticated iOS applications using Swift and UIKit framework. Building on foundational UIKit skills, learners will explore advanced UI design techniques, complex data management, integration with native iOS services, and performance optimization strategies. The course prepares developers to create highly interactive, scalable, and production-ready iOS apps that leverage the latest capabilities of Swift, UIKit and iOS.

Participants will gain hands-on experience with architectural patterns, API integration, accessibility implementation. This course is ideal for developers who have prior experience with Swift and UIKit or native iOS development and want to accelerate their capabilities for real-world app challenges.

While a Mac would be needed to complete this course or at the very least a Mac remote desktop service, no devices such as iPhone or iPad are required as the course can be completed using XCode's built-in simulators.

Learning Outcomes

Participants completing this course will be able to:

- Utilize advanced Swift and UIKit components and modifiers to create dynamic user interfaces.
- Integrate system frameworks such as MapKit, Core Location, and notifications effectively.
- Blend UIKit and SwiftUI elements for legacy and advanced UI needs.
- Implement robust error handling and debugging techniques for iOS apps.
- Ensure apps meet accessibility standards and provide inclusive user experiences.

Prerequisites

Participants completing this course should have completed the introductory course NTAP101 or have some basic knowledge of building iOS apps using basic Swift and UIKit.



Key Features

- **Hands-on learning** with guided projects and real exercises.
- Up-to-date curriculum on Swift and UIKit features.
- Expert-led instruction by experienced professionals.
- Flexible delivery: online and onsite options available.
- Scalable learning for both entry-level and advanced developers.

Course Modules

- **Module 1: Introduction to App Extensions**
 - Introduction to watchOS and Watch Connectivity
 - App Extensions and WidgetKit
- **Module 2: Data Connectivity**
 - Loading data from local and network sources (APIs)
 - Data formatting and downloading from online services using JSON, PHP, MySQL.
- **Module 3: Machine Learning**
 - CoreML
 - Apple Intelligence
- **Module 4: Advanced UIKit Features**
 - MapKit
 - SpriteKit