



Course Outline: NTAP202 – Advanced iOS App Development Using SwiftUI

Course Overview

This advanced-level course is designed to deepen participants' expertise in building sophisticated iOS applications using Swift and the modern SwiftUI framework. Building on foundational SwiftUI 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 SwiftUI and iOS.

Participants will gain hands-on experience with architectural patterns, API integration, accessibility implementation, and the blending of SwiftUI with UIKit for seamless user experiences. This course is ideal for developers who have prior experience with SwiftUI 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 SwiftUI components and modifiers to create dynamic user interfaces.
- Manage complex state and data flow using Combine and ObservableObject patterns.
- 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 NTAP201 or have some basic knowledge of building iOS apps using basic SwiftUI.

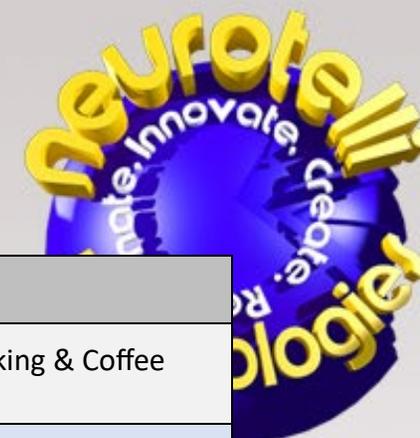


Key Features

- **Hands-on learning** with guided projects and real exercises.
- Up-to-date curriculum on Swift and SwiftUI 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
 - App Notifications
- **Module 2: Game Development**
 - SpriteKit
- **Module 3: Data Connectivity**
 - Loading data from local and network sources (APIs)
 - Data formatting and downloading from online services using JSON, PHP, MySQL.
- **Module 4: Machine Learning**
 - CoreML
 - Apple Intelligence
- **Module 5: HealthKit**
 - HealthKit



Agenda

Time	Day 1	Day 2	Day 3	Day 4
8:00am	Networking & Coffee	Networking & Coffee	Networking & Coffee	Networking & Coffee
9:00am	Review (ContentViews, NavigationViews, Lists, CoreData, MapKit)	M4: SpriteKit App4: 2D Game	M5: Database Connectivity (Continued) App5: Continued	Applied Exercise 4: AI App
10:15am	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>
10:30am	M1: watchOS App1: Conference App	Applied Exercise 1: Health Stats Watch App	Applied Exercise 3: Car Inventory App	Course Review
11:45am	<i>Networking & Lunch</i>	<i>Networking & Lunch</i>	<i>Networking & Lunch</i>	<i>Networking & Lunch</i>
1:00pm	M2: App Extensions App2: Conference Widget & Notifications	Applied Exercise 2: Health Stats Widget	M6: Apple Intelligence App6: AI App 1	Applied Exam
2:15pm	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>	<i>Coffee Break</i>
2:30pm	M3: HealthKit App3: Workout App	M5: Database Connectivity App5: Sports Data App	M6: Apple Intelligence (Continued) App6: Continued	Applied Exam
3:45pm	<i>Recap</i>	<i>Recap</i>	<i>Recap</i>	<i>Recap</i>