

**UI Development with SwiftUI**

**Course Number:** MBL-138  
**Duration:** 5 days

**Overview**

This live, hands-on UI Development with SwiftUI training course teaches attendees the concepts and elements of UI development using SwiftUI, including using the Combine framework for processing values over time. Participants also learn how to use UIKit classes in SwiftUI (and vice versa) for ongoing migration.

**Prerequisites**

Students should be familiar with Swift and iOS development.

**Materials**

All SwiftUI training students receive comprehensive courseware.

**Software Needed on Each Student PC**

* Mac running the current or immediately previous version of macOS, with 8 GB RAM or more
* The latest version of Xcode (available for free from the Apple App Store)

**Objectives**

All students will learn how to:

* Develop a UI using SwiftUI
* Use the Combine framework
* Use Canvas/Preview
* Leverage property wrappers
* Use environment variables
* List items visually
* Apply UI navigation
* Incorporate UIKit in SwiftUI
* Use SwiftUI in a UIKit app
* Work with Publishers/Subscribers

**Outline**

* Introduction
  + SwiftUI Concepts
  + Xcode/Canvas
  + Elements
  + Modifiers
  + Inspector
* SwiftUI Building Blocks
  + Button
  + Image
  + Toggle
  + Binding
  + TextField
* Binding Source of Truth
  + Strideable
  + @Binding
* Observable Objects
  + @ObserveableObject
  + Publishing Updates
* Environment Variables
  + EnvironmentObject
  + Setting/Fetching
* Lists of Items
  + List
  + Rows
* Canvas/Preview
  + Preview Provider
  + Preview Device
  + Environment
  + Pinning
* Designing for Preview
  + Preview Content
  + View
  + Assests
  + Live Mode
* UI Navigation
  + On Tap Navigation
  + Navigation View
  + Navigation Link
* UIKit in SwiftUI
  + UIViewRepresentable
  + Extracting a View
  + UIView in Swift
* UIKit and Coordinator
  + UIViewPresentable
  + Coordinator
* Target/Action in SwiftUI
  + Button
  + Coordinator
* SwiftUI in UIKit
  + UIHostingController
  + ObservableObject
* Combine Framework
  + Publisher
  + Subscriber
  + Sink
  + Assign
  + Operators
* URLSession Publisher
  + Fetching Data
  + Publishing
* Transitions and Animation
  + Transitions
  + Asymmetric Transitions
  + ViewModifier
  + Gradients
  + Rotations
  + DrawingGroup
* WatchKit
  + UI Concepts
  + Similarities/Differences
* User Input
  + Form
  + Section
* Popups
  + Alert
  + Action Sheet
  + Sheet
  + Popover
* Conclusion