



Advanced iOS

Course Syllabus

PERFORMANCE

- Design a well-abstracted, multithreaded API.
- Create custom Operation subclasses for doing clean asynchronous work.
- Compare and contrast the OperationQueue and Grand Central Dispatch multithreading APIs.
- Ensure thread safety with semaphore-based locking when necessary.

DEBUGGING

- Find memory leaks, CPU hot spots, abandoned memory and other problems using Instruments and the Memory Graph Debugger.
- Track down hard-to-find bugs with the LLDB and custom breakpoints.
- Troubleshoot layout problems with the View Hierarchy Debugger.

CUSTOMIZING UIKIT

- Bend collection views to your will with custom collection view layouts.
- Model and process document data with UIDocument and JavaScriptCore.
- Drive custom interactive view controller transition animations.
- Authenticate to OAuth2 services and store credentials in the keychain.
- Use app extensions for sharing behavior with other apps.

DRAWING & GRAPHICS

- Draw custom views and image data using Core Graphics and UIKit drawing routines.
- Explore Core Animation layers, and their properties and 3D transformations.
- Preview your custom views in Interface Builder.
- Process raw camera data and find faces and barcodes in video with AVFoundation
- Filter and process photos with Core Image.

INTEROPERABILITY

- Work effectively with Objective-C and Swift in the same project.
- Understand what does, and does not, cross the Swift/Objective-C bridge.
- Work with Swift's direct memory types for interacting with legacy C/Objective-C APIs.