



COBE iOS LESSON PLAN

For awesome rookie developers

OBJECTIVES

1. Get familiar with object-oriented concepts (objects, classes, initialisers, access modifiers, encapsulation, inheritance, access control, etc.)
2. Have a good knowledge of fundamental programming structures in Swift (operators, types, control flow, closures, property observes etc.)
3. Understand protocols and delegation in Swift
4. Understand closures and higher-order functions
5. Understand Swift data types (classes, structures) and when and how they are used
6. Get familiar with Xcode and auto-layout
7. Have a good understanding of the UIKit framework and the different available elements (especially UITableView)
8. Understand different types of segues and the Navigation Controller
9. Understand what the MVC pattern is and how to architecture an iOS app
10. Learn the different methods that get called during application lifecycle, as well as the AppDelegate class
11. Learn how to consume REST-ful APIS, fetch JSON data, parse it and display it
12. Learn how to use CocoaPods and third-party frameworks
13. Know the basics of fundamental Cocoa frameworks, like MapKit, CoreLocation
14. Learn about persistence in iOS, caching, UserDefaults
15. Learn how to use Git, GitHub and their purposes

Yes, you will learn all of these things.

MATERIALS NEEDED

1. <https://itunes.apple.com/us/course/developing-ios-8-apps-swift/id961180099>
2. [https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift Programming Language/](https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/)
3. <https://git-scm.com/book/en/v2/Getting-Started-Git-Basics>

VERIFICATION

These are some questions you should be able to answer

1. What is the difference between passing a class and a struct inside a function?
2. Explain the difference between a function and a closure
3. Explain why you would use a protocol and how
4. What methods are called on app launch and at what point?
5. When would you use a modal, and when a push segue?
6. Go to the Settings app and describe the components (Views/Controllers) each screen is made of, and how they are connected.
7. What is Git? How do we use GIT in Xcode? Why do we use branches?

ACTIVITY

1st Task

Weather App

Your goal is to create a weather app that will display a forecast for a given city.

- As a user, I want to see the current weather conditions (a short description, image and temperature)
- As a user, I want to see a 7 day forecast for a city (min and max temp and an icon)
- As a user, I want to search for a city and select it as a favorite
- As a user, I want to save favorite cities and see them when the app launches

Technical requirements:

- Use openweathermap.org's JSON API for forecasts
- Use SwiftyJSON to parse JSON (or another framework you like, feel free to look around)
- Use Alamofire as your network library
- Persist the user's cities via NSUserDefaults
- Display the current conditions and the 7 day forecast inside the same screen, via a TableView and any additional views if needed
- Follow the MVP architecture and good coding standards

- Use git for this project, with good branching and commit practices