COURSE SYLLABUS

iOS App Development Bootcamp

This comprehensive training program teaches students how to develop iOS apps using Swift and Xcode. Gain hands-on experience with programming fundamentals, build real apps, and create a final project for your portfolio.

Group classes (NYC) and onsite training are available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.nobledesktop.com/classes/ios-app-development-bootcamp



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Course Outline

Week 1

Introduction to Tools of the Course

- Xcode
- iOS
- Swift

Projects

- Hello World App
- Roll The Dice App

The Swift Programming Language

- The Swift Playground
- Comments
- The println() function

Variables

- Variables
- Constants
- Data types
- Optionals
- Type inference

Conditional Statements & Operators

- The if statement
- The else statement
- The else if statement
- Comparison operators

- Arithmetic operators
- Logical operators

Strings

- Literals
- Mutable strings
- Comparing strings
- Concatenating strings

Week 2

Tip Calculator App

Functions

- Functions with parameters
- Functions with returned values

Optional Unwrapping

- Forced optional unwrapping
- Implicitly unwrapped optionals
- Optional binding

Loops

- For loops
- While loops
- For in loops
- Iterating over arrays

Creating a Class

- Object-oriented programming
- Objects & classes
- Methods
- Properties

Methods

- Methods with parameters
- Methods with return values

Structs

- Creating a struct
- Accessing a struct

Inheritance

- Creating a subclass
- Method overriding

Extensions

- Extending existing classes
- Using extensions

Protocol & Delegates

- Defining & implementing protocol
- Delegate design pattern
- Implementing & using delegates

Closures

- Defining a closure
- Closures with parameters
- Closures with returned values
- Closures as callbacks

Week 3

ENUMS

Creating & using enumerations

Type Casting

- Type checking
- Type casting
- Downcasting

Tuples

Creating & using tuples

Type aliases

Creating & using type aliases

ARC

- Strong & weak references
- Avoiding strong reference cycles

Card War App

- Importing the images
- Adding the button that draws the cards
- Labeling the deck & each player's score
- Adding constraints to our labels
- Adding a button to restart the game & constraining it
- Adding & constraining the background image

Week 4

Auto Layout

- Stacks
- Nested Stacks
- Downcasting
- Constraints
- Content Hugging Priority
- Compression Resistance Priority

Card War: The Data Model & Linking the UI to Code

- Connecting the UI to the View Controller
- Modeling a single card by adding a Card class
- Modeling all the cards by adding a Deck class
- Adding the shuffle functionality

Card War: Adding Variables to the View Controller

- Declaring variables
- Responding to changes in a variable's value using the didSet property observer
- Starting with the drawingCards function

Card War: Displaying the Cards & Score

- Creating the UIImageViews that will hold the cards
- Setting the size & position of the cards that are drawn
- Revealing the cards & updating the winner's score
- Defining what happens when the game is restarted

Card War: Animating the Cards

- Animating the cards' move from the deck button to their respective positions
- Revealing the cards' values after they are done moving
- Revealing the cards' values with a flipping transition
- Incorporating the final code into the animation

Week 5

Building the Lists App

Previewing on iPhone without Developer Account

Establishing an Apple Developer Account

- Creating an Apple Developer Account
- Registering your device to run apps directly from Xcode

Lists: UI with Two View Controllers That Display Table Cells

- Creating files for a dual View Controller app
- Adding a Navigation Controller to manage our two views
- Adding UI elements to the first View Controller
- Constraining the UI objects on the first View Controller
- Copying the first View Controller to create the second

Lists: Refining & Beautifying the UI

- Adding images from the designer
- Improving the UI design on our Storyboard screens
- Differentiating the two View Controllers
- Setting View Controller & Table View Cell classes

Outline Your App Idea

Week 6

Building the Lists App, Continued

Lists: The Data Model & Linking the UI to Code

- Cleaning up the View Controller & Table View Cell files
- Connecting both UI screens to their respective files
- Creating List & List Item classes in the data model

Week 7

Weather Forecast App

- Acquiring an API Key
- Using the Weather Underground API
- Reading JSON
- App Transport Security Settings
- Adding Error Messages
- Linking to an Outside Website
- Completion Handlers
- Do... Catch
- Converting Strings into Floats
- Displaying the Keyboard in the Simulator
- Dismissing the Keyboard

Week 8

Met Gallery App Part 1

Met Gallery: Assets, Launch Screen, & Home View Controller

- Creating files for a multiple View Controller app
- Adding assets & using the Assets Catalog
- Creating a launch screen
- The Home View Controller & UI elements
- Adding constraints to the UI elements
- Connecting the View Controller to its code file

Met Gallery: View Controller with a Collection View

- The gallery view controller UI
- Refining the collection view
- Connecting the view controller to its respective files

Met Gallery: The Painting Detail View Controller

- Adding the UI objects to the Painting Detail VC
- Constraining the UI objects
- Adding Swipe & Tap Gesture Recognizers
- Connecting the View Controller to its code file

Final Project: Start Coding!

Week 9

Met Gallery App Part 2

Met Gallery: Full Screen View Controller with a Scroll View

- Creating the full screen painting View Controller
- Setting size classes
- Constraining the scroll view & connecting the code

Met Gallery: Adding a Spinner, Data Model, & Gallery VC

- Adding a Spinner
- Creating the data model
- Adding the Collection View methods

Met Gallery: Painting Detail & Adding Gesture Recognizers

- Loading the painting details
- Refining the Image View
- Making the online reference button functional
- Segueing to the full screen scroll view
- Adding the image to the full screen view
- Implementing the swipe gestures

Work on Final Project

Week 10

Course Wrap Up

TestFlight and Submitting to the App Store

Final Projects

Final Project Presentations