



## iOS Programming 101 Tentative Outline

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**Overview:** This is a day-long session that will cover how to get started with iOS UIKit programming. Through several hands-on sections, students will create their own iPhone application from scratch, complete with a table view, detail views, and persistent data – and even port the app to the iPad!

Several of these sessions will be based on the “How To Create a Simple iPhone App (Scary Bugs)” and other tutorials available at <http://www.raywenderlich.com>, along with some additional information and hands-on labs. iOS Programming 101 assumes basic familiarity with Objective-C, but is tailored toward complete beginners to the iOS platform.

Please bring your laptops and your iOS devices (preferably both an iPhone and an iPad if you have them!)

Hello, iPhone!

- Slides: Overview of this course, intro to iPhone programming, crash course in Objective-C
- Demo: making a simple view-based app: Mad Libs
  - Covers: Interface Builder and most common controls: labels, buttons, text field, switch, segmented control, slider
- Slides: Supporting orientation changes with autoresizing
- Demo: Supporting orientation changes
- Slides: How does it all work? Examine how everything fits together. Also: application lifecycle (UIApplication events). Finally, using debugger and API reference.
- Demo: Using debugger and API reference.
- Lab: Making a tip calculator

Navigation Controllers, Table Views, and Images

- Slides: Overview of navigation controllers, what they do, important methods

- Demo: adding navigation controllers to a Window-based application from scratch, using multiple view controllers
- Slides: Overview of table views, what they do, default table view cells, how to use them in practice, how to integrate with your data model
- Demo: Creating a simple table view controller from model w/ image and name (Scary Bugs)
- Slides: How to pass data from selected cell to child view controllers, how to use UIImagePickerController
- Demo: Adding detail view for Scary Bugs w/ Image Picker
- Lab: Making a “my favorite XXX” app with table view and detail view-based

### Advanced Table Views

- Slides: Custom table view cells – programmatic method and Interface Builder method
- Demo: Custom table view cells – Interface Builder method
- Slides: Adding and deleting in table views
- Demo: Extending scary bugs for adding and deleting
- Slides: Other interesting stuff: indexing, sections, customizing table view backgrounds
- Demo: Customizing table view look
- Lab: Extend “my favorite XXX” with custom cells and adding/deleting support

### Saving Application Data

- Slides: Overview of various ways to save data: raw file APIs, user defaults, property list serialization, SQLite, Core Data, NSCoding. Details on user defaults, property list serialization.
- Demo: User defaults, property list serialization
- Slides: How to use NSCoding/NSFileManager
- Demo: Extending Scary Bugs to use NSCoding/NSFileManager
- Lab: Extend “my favorite XXX” to persist data across sessions

### Hello, iPad!

- Slides: Differences between iPhone/iPad apps, UISplitViewController
- Demo: porting Scary Bugs app to iPad with UISplitViewController
- Slides: UIPopoverController
- Demo: Adding UIPopoverController to ScaryBugs
- Lab: Port “my favorite XXX” to iPad

I suspect this will take all the time we have available. Other potential topics: basic core graphics and UIView customization, touch handling and gesture recognizers, basic audio playing, basic network communication, tab view controllers, intro to game programming with Cocos2D.