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Syllabus 2021-2022 iOS Programming Course

iOS Programming Bootcamp | 508 Hours
$16,000 - Full tuition.

Course description

Stateless Processes or applications can be understood in isolation. There is no stored knowledge of or reference to past transactions. Stateful applications and processes, however, are those that can be returned to again and again. At Stateful we choose to learn together vs in isolation.

The iOS programming course will take you from no programming experience to having the skills necessary to create and deploy your own projects publicly available on the Apple App Store.

Course Objectives

Upon successful completion of the iOS Programming Course, you will feel confident in the following:

- ➔ Variables,
- ➔ Constants,
- ➔ Operators,
- ➔ Data Types,
- ➔ Proper naming conventions,
- ➔ Conditionals,
- ➔ Control Flow,
- ➔ Functions,
- ➔ Parameters,
- ➔ Results,
- ➔ MVC,
- ➔ Design Patterns,
- ➔ MVVM,
- ➔ Communication Patterns,

- ➔ Protocol and Delegate,
- ➔ Loops,
- ➔ Class,
- ➔ Struct,
- ➔ Optionals,
- ➔ UIViewController,
- ➔ Apple HIG,
- ➔ GitHub,
- ➔ Version Control,
- ➔ UITableView,
- ➔ Singleton,
- ➔ Segues,
- ➔ Local Persistence,
- ➔ JSON,
- ➔ UIAlertController,

- ➔ Notification and Listener,
- ➔ JSONSerialization,
- ➔ Postman,
- ➔ API Documentation,
- ➔ URLSession,
- ➔ Closure,
- ➔ Concurrency,
- ➔ GCD,
- ➔ Codable,
- ➔ Enum,
- ➔ Memory Management,
- ➔ ARC,
- ➔ Dictionaries,
- ➔ Arrays,
- ➔ Extensions,

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- ➔ Result Type,
- ➔ Capture Lists,
- ➔ URL Requests,
- ➔ Abstraction && Single Responsibility,
- ➔ Async and Await,
- ➔ Pagination,
- ➔ Google Firebase,
- ➔ Google Firestore,
- ➔ HTTP Methods,
- ➔ App Planning,
- ➔ Story mapping,
- ➔ AGILE Methodologies,
- ➔ Interface Builder,
- ➔ Introduction to BigO Notation,
- ➔ Introduction to Data structures and Algorithms,
- ➔ Objective - C,
- ➔ Core Data,
- ➔ iOS Interview process,
- ➔ Introduction to UI/Unit testing.

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Course Layout

Week 1: Welcome to Stateful!
Introduction to the Swift Programming language and the IDE Xcode.

Week 2: My first App
Learn how the MVC design pattern works. Explore and begin using version control with your projects. Explore UITableViews and how to use segues to send data to a new screen. Learn how to properly use Singletons.

Week 3: Persistence and Communication patterns
We teach you how to have the data within your app persist through app launches. We also cover how to use Protocols and Delegates.

Week 4: Introduction to Networking
We teach you the basics of pulling information from the web (API's) and display that data on a live application. JSON Serialization and URL Session.

Week 5: Intermediate Networking
Now that you know the basics of networking you will learn more in-depth networking skills such as Codeable and Results type.

Week 6: MVVM and Advanced Networking
Now that you are familiar with networking we will teach you the latest and greatest frameworks such as Async and Await and new methodologies to have the cleanest possible code. We focus on abstraction and single responsibility.

Week 7: Custom Databases with Firebase
We teach you how to create your own custom database using Firebase and Firestore. Continue to practice your MVVM skills.

Week 8: Break week
Break week! Take a break! Get some drops in, see some friends and family. You've been putting in 12 hour days for a few weeks. Rest here, traveler.
Come up with some ideas for your personal capstone. **Purchase your Apple Developer License**

Week 9: App planning and Story mapping
We teach you how to plan your app before you build it. They say that 10 hours of coding can save 2 hours of planning.

Week 10 - 12: Personal Capstone

Work on your personal capstone project. Submit to the App Store. During this time we will teach you how to debug your projects, Core-Data, and how to read Obj-C

Week 13 - 15: Group Capstone
Work on a capstone project with your fellow students. During this time we will start preparing you to enter the job market. We cover Computer Science fundamentals, iOS Interview skills, and common Data structure and Algorithms. Submit group capstone to the App Store.

Week 16: Parting is such sweet sorrow
We use this week to "clean up the dust". Submit missing projects to the App Store, complete any missing graduation requirements.

Required materials

To attend the iOS Programming Course you will be required to have the following materials and equipment:

- An Apple computer with the latest OSX operating system
- An Apple computer with at least 8gb of Ram
- An Apple computer with at least 256 GB Storage
- A second display
- Web Camera
- Microphone
- Developer licence from Apple ($99)

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Daily Schedule

Monday - Thursday

9am - 5PM Central Time

9:00am - 9:30am - Coffee Chat
Connect with your teammates and the team lead to discuss the previous day

9:30am - 10:30 - Formal Lecture
Using a slide deck we will over in-depth specific topics

10:45am - 11am - Break
Moar coffee

11am - 1:00pm - Live Coding lecture
Interactive lecture where you code along with your instructor

1:00pm - 2:00pm - Lunch
I'm thinking Chipotle

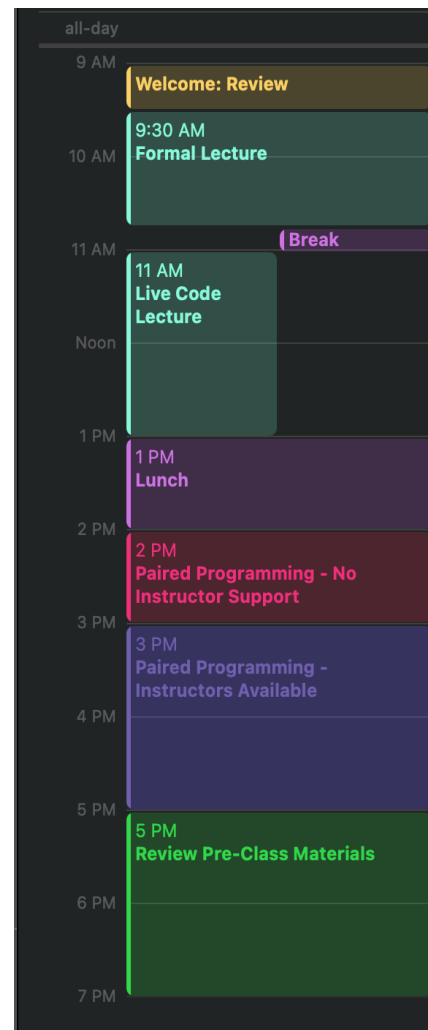**2:00pm - 3:00pm - Pair Programming - Support Closed**
Paired Programming without instructor support. It's important to learn how to learn on your own and use external resources

3:00pm - 5:00pm - Pair Programming - Support Open
Instructors live and oncall to support you. We will answer any questions you may have

5:00pm - 7:00pm - Review Pre-Class Materials
Prepare for the next day by getting an introduction to what we will learn the following day.

all-day	
9 AM	Welcome: Review
	9:30 AM Formal Lecture
10 AM	
11 AM	Break
	11 AM Live Code Lecture
Noon	
1 PM	1 PM Lunch
2 PM	2 PM Paired Programming - No Instructor Support
3 PM	3 PM Paired Programming - Instructors Available
4 PM	
5 PM	5 PM Review Pre-Class Materials
6 PM	
7 PM	

Friday - OPTIONAL!

We will cover the entire week in one succinct project and assist any students who are not comfortable with the week's learning objectives. If you are feeling confident with the materials for this week take the day off!

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Weekly Schedule: Weeks 1 - 7

January 2022

	Mon 10	Tue 11	Wed 12	Thu 13	Fri 14
all-day					
9 AM	Welcome: Review	Welcome: Review	Welcome: Review	Welcome: Review	
9:30 AM	Formal Lecture	Formal Lecture	Formal Lecture	Formal Lecture	
10 AM					10 AM Optional Weekly Review
11 AM	Break	Break	Break	Break	
	11 AM Live Code Lecture	11 AM Live Code Lecture	11 AM Live Code Lecture	11 AM Live Code Lecture	
Noon					
1 PM	1 PM Lunch	1 PM Lunch	1 PM Lunch	1 PM Lunch	
2 PM	2 PM Paired Programming - No Instructor Support	2 PM Paired Programming - No Instructor Support	2 PM Paired Programming - No Instructor Support	2 PM Paired Programming - No Instructor Support	2 PM Break
3 PM	3 PM Paired Programming - Instructors Available	3 PM Paired Programming - Instructors Available	3 PM Paired Programming - Instructors Available	3 PM Paired Programming - Instructors Available	3 PM Open Support
4 PM					
5 PM	5 PM Review Pre-Class Materials	5 PM Review Pre-Class Materials	5 PM Review Pre-Class Materials	5 PM Review Pre-Class Materials	
6 PM					
7 PM					

Weeks 1 - 7 Assessment

Each week will have a four (4) hour timed assessment you can take at any time during the weekend. This assessment will allow the instructor to understand the depth of your understanding. We will review with you how you did and offer any suggestions or learning opportunities.

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Break Week

At the end of Week seven you will have the opportunity to rest and relax. Maybe even see your friends and family again. We recommend that you take this opportunity to rest and also think about what App you would like to build for your Personal Capstone Project.

Weekly Schedule Weeks 9 - 16

Monday - Thursday

9am - 5PM Central Time
9:00am - 9:30am - Daily Standup
Connect with your teammates and the team lead to discuss the previous day
9:30am - 10:30 - Formal Lecture
Using a slide deck we will cover in-depth specific topics
10:30pm - 5:00pm - Work on Capstone Projects
Work on your Capstone projects. Instructors and Subject matter experts available to answer any questions
4:00pm - 5:00pm - Thursdays only - Weekly Progress Review
We review the goals and objectives for the week

January 2022

	Mon 10	Tue 11	Wed 12	Thu 13
all-day				
9 AM	**Stand-Up**	**Stand-Up**	**Stand-Up**	**Stand-Up**
	9:30 AM **Formal Lecture**	9:30 AM **Formal Lecture**	9:30 AM **Formal Lecture**	9:30 AM **Formal Lecture**
10 AM				
11 AM	10:45 AM **Capstone Work Time**	10:45 AM **Capstone Work Time**	10:45 AM **Capstone Work Time**	10:45 AM **Capstone Work Time**
Noon				
1 PM				
2 PM				
3 PM				
4 PM				4 PM **Weekly progress review**
5 PM				

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Graduation Requirements

To successfully complete the iOS Programming Course you must:

- Adhere to the Attendance Policy
- Complete every Assessment with a score of at least 90%
- Successfully host one (1) app on the Apple App Store

Attendance policy

Students shall attend every session of class and be present via Zoom and/or Discord for the entire class unless approved by the instructor beforehand. Students are responsible for attendance and no institutional assistance is given to a Student who has to miss class for any reason. If a student misses 14 class hours, Stateful shall place the student on probation. If Student missed 21 class hours, Stateful shall dismiss the student from the program. A Student who is dismissed may re-apply and be considered for readmission. Program Directors and admissionstrators my permit make-up work.

Thank you

Thank you for reviewing the syllabus for the iOS Programming Course with Stateful. As a reward for making it this far, if you send an email to info@statefulacademy.com with the subject Syllabus Prize and the following statement with your preferred t-shirt size we will send you a special Stateful Shirt!

Prize Email Content
Subject: Syllabus Prize
Body: The Wolf howls at midnight. Lewis Hamilton is the greatest Formula 1 driver of all time. My preferred shirt size is *blank*.

Thank you!