iOS DeCal — *Syllabus*

Computer Science 198–1 — Spring 2016

Time and Place	Tuesday & Thursday 6:30–8:30PM, 306 Soda Hall CCN: 26898
Facilitators	Gene Yoo (`geneyoo@berkeley.edu`) and Shawn D'Souza (`1dsouzas@berkeley.edu`)
Office Hours	*by appointment*
Course Website	`iosdecal.com`
Course Email	`iosdecalstaff@gmail.com`
Instructor of Record	Dan Garcia (`ddgarcia@cs.berkeley.edu`), 777 Soda

Overview

The iOS DeCal is a student-run course designed as an introduction to application programming for the iPhone and iPad. The goal of the class is to provide the tools and guidance needed to write applications for iOS.

Prerequisites

Exposure to basic programming skills, such as object-oriented programming, will be expected (i.e. CS 61A & 61B). Students will also be required to have machines running the latest version of OS X.

Course Structure

The course covers Swift, an official language used to write software for OS X and iOS. We additionally cover Cocoa and the Foundation classes provided by Apple as part of the SDK. The course will then cover the higher-level aspects of how iOS applications are both designed and written. The last several weeks of the course will be dedicated to working on the final project.

Course Schedule

Roughly one week will be spent on each of these topics, in the following order:

The Swift language; XCode & iOS overview; Interface Builder and the Model-View-Controller paradigm; Collections & Foundation classes; User interface design principles; User defaults & saving state; View controllers; Table views & controllers; Debugging; Testing; Views/drawing/events; Performance; Animation

Time permitting, we'll also touch on these APIs: Core Audio; Core Data; Core Location; Core Motion; Grand Central Dispatch; MapKit; MessageUI; WebKit

Course Format

Each class meeting will start with a lecture (generally an hour long), followed by an optional lab time for homework assistance. Attendance is expected and will be taken at the start of every lecture.

Readings

Reading assignments will occasionally be suggested in advance of the next course meeting.

Assignments

In this course, there will be six homework assignments and four projects. For the final project, the student proposes and builds an iOS application of their own design. The assignments — particularly the final project — will require a significant number of out-of-class hours to complete; course staff will evaluate project proposals to ensure that student final projects will constitute a sufficient effort.

Grading

Students who attend regularly and show a reasonable amount of effort on the homework assignments and on the final project will earn passing grades. Students who clearly did not put in sufficient effort on their work will be given NPs.