

**Objective** This course teaches how to develop applications for iOS mobile devices such as iPhones and iPads. We will go through the process of building a mobile application from start to finish using the iOS SDK (Software Development Kit). You will learn the basics of the Swift and Objective-C programming languages, how to use the libraries to build applications that have the proper look and feel, how to design and handle user input, and important software design patterns.

**Prerequisites** ITP 365 or CSCI 104

**Instructors** Trina Gregory (trinagre@usc.edu) and Bennett Lee (bennettl@usc.edu)

**Office Hours** Listed on Blackboard under Contacts.

**Lab Assistants** Listed on Blackboard under Contacts.

**Course Hours** Monday and Wednesday, 12 pm – 1:50 pm (Gregory); 6 – 7:50 pm (Lee)

**Course Structure** The class meets for one hour and 50 minutes twice a week for a total of 3 hours and 40 minutes. These sessions include lectures and in-class assignments. Two exams are given during the semester and held during the class meetings. Homework assignments and a final project are completed outside of class time. Access to a computer is recommended, although ITP has loaner laptops and holds open lab hours with computers. All course material is available on Blackboard at <http://blackboard.usc.edu>.

**Grading** The following percentage breakdown is used to determine the final grade.

|  |             |
|--|-------------|
| Assignments (in-class and homework; weighted proportionally) | 50%         |
| Exam #1  | 15%         |
| Exam #2  | 15%         |
| Final Project Proposal (calculated in assignments)           |             |
| Final Project App  | 20%         |
| <b>TOTAL POSSIBLE</b>  | <b>100%</b> |

**Grading Scale** The following scale is used to determine the letter grade:

|               |    |
|---------------|----|
| 93% and above | A  |
| 90 - 92%      | A- |
| 87 - 89%      | B+ |
| 83 - 86%      | B  |
| 80 - 82%      | B- |
| 77 - 79%      | C+ |
| 73 - 76%      | C  |
| 70 - 72%      | C- |
| 69 - 65       | D  |
| 64 and below  | F  |

If you are taking the class with a grade of P/NP, you must earn a grade of 70% or higher in order to receive a P. Final grade percentages are calculated to two decimal places and rounded to hundredths. For example, 89.99 is a B+ while 89.995 is rounded to 90 and thus an A-.

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| <b>Textbook</b> | Recommended:<br><a href="https://itunes.apple.com/us/book/the-swift-programming-language/id1002622538?mt=11">https://itunes.apple.com/us/book/the-swift-programming-language/id1002622538?mt=11</a>  |
| <b>Homework</b> | <p>The assignments will be posted on Blackboard under the “Assignments” section. Each assignment will include instructions, a due date, and a link for electronic submission. Assignments must be submitted using this link. All assignments will be digitally submitted through Blackboard except where specifically specified. Do not email them to the lecturer or lab assistant.</p> <p>It is your responsibility to submit assignments on or before the due date. Assignments turned in one day (24 hours) late will have 10% of the total points deducted from the graded score. Assignments turned in over one day and up to three days (&gt;24 hours and &lt;= 72 hours) late will have 50% of the total points deducted from the graded score. After three days, submissions will not be accepted and you will receive a 0. Each student will be allowed to submit ONE assignment with no late penalty, but this means you still must submit it within three days (72 hours) of the due date. You must indicate that you are using your free late in the comments when you submit the assignment, and this may not be used on the final project.</p> <p>You have one week to contest a grade once it has been posted on Blackboard. To contest a grade, create a private post on Piazza with your name, the assignment name, and your reasons. This will allow the grader and instructor to view your submission and make a decision.</p> <p>You are required to keep a copy of all of your assignments. Do not depend on Blackboard.</p> |
| <b>Policies</b> | <p>No make-up exams (except for documented medical or family emergencies) will be offered. If you will not be able to attend an exam due to an athletic game or other valid reason, then you must coordinate with the instructor before the exam is given. You may arrange to take the exam before you leave, with an approved university personnel during the time you are gone, or within the week the exam is given. If you do not take an exam, then you will receive a 0 for the exam.</p> <p>Attendance will be taken during lecture sessions electronically using Blackboard. Do not share the code with students that are not in the room; doing so is an academic integrity violation. If you would like to be considered for an excused absent, then create a private note on Piazza and select the absent folder. In the post, include your name, week (1-15), day, date, reason, and documentation.</p> <p>Attendance is not part of the grading breakdown, although attending lectures will help you learn the material and succeed in this class. If you are not able to attend lectures and be an active learner, then do not take this class. I expect you to pay attention during lectures and refrain from distracting your classmates. Chatting while the instructor is talking, texting on your mobile device, and participating on social media sites during class is disrespectful to the instructor and your classmates.</p>  |

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**ITP Computers** There will be Mac computers (laptops in KAP 160 and desktops in OHE 540) with Xcode that can be used during class.

ITP has 20 Mac laptops with Xcode that are available to borrow for a week at a time. Visit the ITP office in OHE 412 during the week (Monday - Friday, 8:30 am - 5 pm) to fill out a loan contract and then receive a laptop and power adapter. If all of them have been checked out, then you will be placed on the waiting list. You must return it each week. If there is no one on the waiting list, then the laptop will be renewed to you for another week. If you do not return it after a week, then you will lose the privilege and the laptop will be repossessed.

You will not be able to save your work on the ITP lab computers and the ITP laptops. Once they are restarted, all work will be deleted. Use an external USB drive or a repository like GitHub or Dropbox to save your work. ITP is not responsible for any lost work.

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**Late Add** You are responsible for any lectures or work that you missed if you added the class after the first meeting.

If you missed due dates for assignments, then you will have one week from when you registered for the class to submit the assignments.

If you add the class during the third week of classes, then you must meet with the instructor to create a plan together on how to catch up to the rest of the class.

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**Incomplete and Missing Grades** University Grading Handbook contains details on incomplete and missing grades as well as other grading concerns.

<http://arr.usc.edu/services/grades/gradinghandbook/gradingpolicies.html>

A grade of Missing Grade (MG) should only be assigned in unique or unusual situations such as for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year, the grade is changed to UW (Unofficial Withdrawal) and will be calculated into the grade point average as zero grade points.

A grade of Incomplete (IN) is assigned when work is not completed because of documented illness or other 'emergency' occurring **after the twelfth week of the semester** (or 12th week equivalency for any course scheduled for less than 15 weeks).

Communicate with the instructor before the semester ends if you feel you have a situation that warrants receiving a missing or incomplete grade.

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**Viterbi Honor Code** Engineering enables and empowers our ambitions and is integral to our identities. In the Viterbi community, accountability is reflected in all our endeavors.  
Engineering+ Integrity.  
Engineering+ Responsibility.  
Engineering+ Community.  
Think good. Do better. Be great.  
These are the pillars we stand upon as we address the challenges of society and enrich lives.

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**Academic Integrity** USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles.

SCampus is USC's Student Guide to Policies and Conduct Code and can be found at <http://scampus.usc.edu>. Section 11 contains the Behavior Violating University Standards and Appropriate Sanctions and can be found at <http://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review, should there be any suspicion of academic dishonesty. The Review process can be found at <http://www.usc.edu/student-affairs/SJACS/>.

An academic integrity tutorial can be found at [http://www.usc.edu/libraries/about/reference/tutorials/academic\\_integrity/index.php](http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php)

Assignments and projects in computer programming course are different from those in some other types of courses. Students **may NOT collaborate**, work together, share code, or in any way exchange solutions for assignments and projects. All assignments are analyzed by software that looks for similarity. Any sharing of ideas or code will be considered a violation of academic integrity (cheating); an SJACS report will be filed with the recommended penalty of an F in the course. Do not share your code with anyone else in this or a future section of the course, as allowing someone else to copy your code carries the same penalty as you copying the code yourself.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS. Do not share assignments with another person. Do not submit another person's work as your own. Do not look at other students' papers during exams. Do not leave the room during an exam without permission. **Do not cheat!**

**As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.**

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**Support Systems** USC provides many services to support you and your fellow classmates at USC.

**Student Counseling Services (SCS)** – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.  
<https://engemannshc.usc.edu/counseling/>

**National Suicide Prevention Lifeline** – 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.  
<http://www.suicidepreventionlifeline.org>

**Relationship and Sexual Violence Prevention Services (RSVP)**

(213) 740-4900 – 24/7 on call  
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

**Sexual Assault Resource Center**

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

**Office of Equity and Diversity (OED)/Title IX Compliance** – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

**Bias Assessment Response and Support**

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response.  
<https://studentaffairs.usc.edu/bias-assessment-response-support/>

**Student Support and Advocacy** – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic.  
<https://studentaffairs.usc.edu/ssa/>

**Diversity at USC**

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

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**Disability Services** **The Office of Disability Services and Programs** provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. **Please be sure the letter is delivered to your course instructor as early in the semester as possible.** If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam, but preferably at the beginning the semester.  
<http://dsp.usc.edu>

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**Emergency** If an officially declared emergency makes travel to campus infeasible, **USC Emergency Information** will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology. <http://emergency.usc.edu/>

Additional information about **Campus Safety and Emergency Preparedness** can be found at <http://preparedness.usc.edu>.

**USC Department of Public Safety** – 213-740-4321 (UPC) and 323-442-1000 (HSC)  
Call for 24-hour emergency assistance or to report a crime.

Provides overall safety to USC community. <http://dps.usc.edu>

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**Course Material** Do not reproduce, distribute, or post any lecture material, assignments, or exams publicly without my written consent. You may take notes and make copies of course materials for your own use. You may not post my course materials on sites such as CourseHero. Doing so is a copyright violation and an academic integrity violation that will be dealt with accordingly.

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| <b>Course Outline*</b> |   |                               |
|------------------------|---|-------------------------------|
| <b>Week</b>            | <b>Topics</b>                                       | <b>Activities/Assignments</b> |
| 1                      | Course overview; Intro to Xcode                     | HW0 – Xcode                   |
|                        | Interface Components, Icon Images                   |                               |
| 2                      | Auto Layout, Code                                   | HW1 – Me                      |
|                        | Classes and Objects                                 |                               |
| 3                      | Holiday – No Class                                  | HW2 – Choose                  |
|                        | Outlets and Actions                                 |                               |
| 4                      | More Interface Components                           | HW3 – Tip Calculator          |
|                        | Alerts  |                               |
| 5                      | Blocks and MVC                                      | HW3 – Tip Calculator          |
|                        | Model and Collections                               |                               |
| 6                      | Singleton   | HW4 – Flashcards              |
|                        | Unit Testing  |                               |
| 7                      | Review  | HW4 – Flashcards              |
|                        | <b>Exam #1</b>                                      |                               |
| 8                      | Gestures, Animation, and Accelerometer              | HW5 – Tables                  |
|                        | Audio and return Exam #1                            |                               |
| 9                      | Delegation and Table Views                          | HW5 – Tables                  |
|                        | Navigation Bars and Tab Bars                        |                               |
| 10                     | Scenes and Segues                                   | HW6 – Tab Bars & Table View   |
|                        | Data Persistence                                    |                               |
| 11                     | Objective-C   | HW6 – Data Persistence        |
|                        | App Life Cycle and Memory Management                |                               |
| 12                     | Collection View and Web View                        | App Proposal                  |
|                        | Pickers and Camera / Photo Library                  |                               |
| 13                     | Map Kit and Core Location                           | HW7 – Tour Guide              |
|                        | <b>Exam #2</b>                                      |                               |
| 14                     | APIs and REST                                       | Final Project                 |
|                        | Holiday   |                               |
| 15                     | Analytics and return Exam #2                        | Final Project                 |
|                        | Internationalization and Localizations              |                               |
| <b>Finals</b>          | <b>Final Project due at the final exam time. **</b> |                               |

\* This course outline is for planning purposes and is subject to change.

\*\* For the date and time of the final exam time, consult the USC Schedule of Classes at <http://classes.usc.edu>