CIS4350 (Seminar on Topics in Computer Science): iOS Programming

Course Objectives:

In this course, we will learn to create applications for Apple's iOS on both the iPhone and the iPad using Objective-C and the iOS SDK.

Since its introduction, the Apple iOS SDK has proved to be a powerful platform upon which to build sophisticated applications. Without actually having to own an iPhone or an iPad, students will be able to build and test their applications on Intel Apple Macs using the freely available compiler and simulator. Students will become proficient in the object-oriented language Objective-C, Apple iOS Frameworks, and the XCode development environment. This is a new, dynamic, constantly-evolving topic, and students will be at the forefront a new technological advancement.

- This course is an introduction to software development for the iOS platform.
- Students will become familiar with the native object-oriented programming language used for development, Objective-C, as well as the design patterns necessary to carry out development of apps for iPhone, iTouch, and iPad.
- This includes proper Objective-C syntax, defining classes, and proper object-oriented techniques such as abstraction and inheritance.
- Common design patterns, such as the Model-View-Controller and Delegate patterns, will be discussed as a foundation needed to comprehend and take full advantage of the core objects used in the iOS Software Development Kit.
- Finally, we will dive into the vast library that makes up the SDK, and become familiar with many of the most commonly used APIs that are necessary for great iPhone applications.
- Throughout the term, we will discuss the theory of what makes a "great" iPhone application, such as proper design considerations, usability, and acceptable performance characteristics.
- Most of these guidelines are outlined by Apple, and many are required in order to meet the standards necessary to publish to the App Store, and as such, are just as important to an application as the code that drives it.

No. of Credits:

- 4 credits.

Prerequisite:

- Students must have a knowledge of both C and Object-Oriented concepts. Therefore;
  - C- Or better in CIS2168 and CIS2107 are required.

Textbooks:

- There is no required textbook for this course. Instead, the documentation available at Apple's iOS Dev Center will be extensively used. Once you've installed the SDK you'll have the documentation available locally in XCode. You can also view it online at developer.apple.com

Topics:

- Introduction to mobile system development. Introduction to Mac OS X framework stack.
- Object-oriented Programming
- Objective-C
- Unix & Mac OS X
- iPhone Development Tools
- Custom Classes
- XCode
- Application Frameworks
- Graphics and Animation basics
- Interface Design
- Navigation Controllers
- Table Views
- MultiTouch
- OpenGL, Core Animation

Grades: The grading for the course will be based on:

- Homework: 50%
- Project: 30%

- Final Exam: 20%

Testing policy:
All Assignments and exam are uploaded to Blackboard. These assignments will test your ability to apply the concepts taught in class to implement iOS applications.

Attendance/Participation Policy:
None. Students are responsible for the material being covered in class. Students are encouraged to participate and discuss class material. Students are expected to read all class materials and complete all assignments on time. If you are experiencing major issues such as serious illnesses, absences due to academic duties, or religious observations, you should contact the instructor immediately.

Makeup policy:
There is no makeup policy. In case of having an emergency, students should contact the instructor. A decision will be made after.

Grading Scale:
I use a point-based grading between 0-100.

Late assignments:
Unless there is a documented excuse, No Late assignments will be accepted.

Disability policy
Any student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Contact Disability Resources and Services at (215)204-1280 in 100 Ritter Annex to coordinate reasonable accommodations for students with documented disabilities.

Code of Academic Integrity
- You need to submit your original work.
- Plagiarism is not allowed, for example:
  - The presentation of words or ideas from any other source or another person as one's own without proper quotation and citation.
  - Putting someone else's ideas or facts into your own words (paraphrasing) without proper citation.
  - Turning in someone else's work as one's own, including the buying and selling of term papers or assignments.
  - Please review Temple's page on academic honesty and other student responsibilities in the undergraduate bulletin: here.