

Course Description:

The primary objective of this course is to teach how to provide software-based solutions to complex problems using the iPhone/iPod Touch handheld computers. The course covers the entire software life cycle with the following processes: problem formulation, requirements engineering, architecting, design, programming, integration, and delivery/deployment. Object-oriented (OO) analysis, OO design, and OO programming are emphasized. The programming process involves the Objective-C 2.0 object-oriented programming language with Xcode and Interface Builder tools under the Cocoa Touch framework for the iPhone/iPod Touch handheld computers. The course focuses on the programming process of the software life cycle.

Learning Objectives:

Having successfully completed this course, the student will be able to:

1. provide software-based solutions to complex problems using the iPhone/iPod Touch handheld computers;
2. engineer software for the iPhone/iPod Touch handheld computers using Objective C 2.0 object-oriented programming language with Xcode and Interface Builder tools under the Cocoa Touch framework;
3. effectively employ the object-oriented paradigm for software engineering; and
4. work on a software engineering project with the title of iPhone/iPod Touch Software Engineer.

Prerequisite:

CS1706: Introduction to Object-Oriented Development II
or CS2114:

Materials:

Required Enrollment:

[Apple iPhone Developer Program](#), Standard Program, \$99

This enrollment enables the student to individually access *copyrighted* resources, sample code, and tutorial documents, which will be used in the course.

Optional Textbooks:

- D. Mark and J. LaMarche (2009), [Beginning iPhone 3 Development: Exploring the iPhone SDK](#), Apress, New York, NY, 555 pp.
- S. G. Kochan (2009), [Programming in Objective-C 2.0](#), 2nd Edition, Addison-Wesley, Upper Saddle River, NJ, 600 pp.

Facilities:

- **Torgersen Hall 1080** will be used for teaching and learning.
- This classroom/lab provides 35 Mac computers for use during lectures/hands-on teaching.
- The students can access this facility 24/7 by swiping their VT ID cards.
- The iPhone/iPod Touch Software Development Kit (SDK) will be available on each Mac computer. The students will do all of their work on these computers.
- There is no requirement for the student to buy any equipment.