Common Course Outline
CSIT 267
iOS Application Development
4 Credits

The Community College of Baltimore County

Description

CSIT 267 – 4 credits – iOS Application Development introduces students to iOS development. This course provides students with a progression of skills from installing developer tools and registering devices with Apple to submitting an application to the App Store.

4 Credits
Prerequisite: CSIT 210 or CSIT 212 or CSIT 214, or the consent of department chair.

Overall Course Objectives

Upon completion of this course students will be able to:

1. select, download and use the Apple developer tools;
2. write mobile applications in Objective-C;
3. identify the fundamentals of Cocoa Touch;
4. implement the Model-View-Controller design pattern;
5. write mobile applications using Xcode;
6. run applications using the iOS simulator;
7. create user interfaces with Interface Builder;
8. implement local notifications;
9. access and use orientation and motion data;
10. use the rich media picker;
11. build mobile applications using core location services; and
12. build universal mobile applications, for iPhone and iPad.

Major Topics

I. Prepare a system and iDevice for development
   A. Development provisioning profile
   B. iOS app
   C. Developer technology
II. Review of Xcode and iOS simulator
III. Discover Objective-C
   A. Object-oriented programming and Objective-C
   B. Objective-C file structure
   C. Objective-C programming basics
   D. Memory management
IV. Cocoa Touch
   A. iOS technology layers

- B. iOS application life cycle
- C. Fundamentals
- D. iOS frameworks with Xcode

V. Interface builder
- A. User interfaces
- B. Interface appearance
- C. Code

VI. Model-View-Controller (MVC) application design
- A. Xcode and MVC
- B. Single view application template

VII. Text fields, text views, keyboards, and buttons

VIII. Handle images, animation, sliders, and steppers
- A. User input and output
- B. Image animations, sliders, and steppers

IX. Alerts and their methods

X. Toolbars

XI. DatePickers

XII. Table views and split view controllers
- A. Split view controller (iPad only)
- B. Master-detail applications

XIII. Read and write application data
- A. Data storage
- B. Implicit preferences
- C. System settings
- D. File system storage

XIV. Build responsive user interfaces
- A. Responsive interfaces
- B. Auto layout
- C. Programmatically defined interfaces
- D. Swap views on rotation

XV. Sense orientation and motion
- A. Access orientation and motion data
- B. Sense orientation
- C. Detect tilt and rotation

XVI. Media playground

XVII. Interact with other applications
- A. Extend application integration
- B. Address book, email, social networking and maps

XVIII. Implement location services
- A. Core location
- B. Magnetic compass

XIX. Build background-aware applications
- A. Disable the background
- B. Handle background suspension
- C. Use task-specific background processing

XX. Build universal applications

A. iPad
B. iPhone

XXI. Application tracing and debugging
A. Instant feedback with NSLog
B. Xcode debugger

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

- Minimum of 4 homework assignments that include academic research
- Minimum of 2 tests
- Minimum of 4 programming projects*
- Comprehensive final exam

*These projects will include collaborative work, written portions and oral presentations as assigned by the faculty member.

Written Assignments: students are required to utilize appropriate academic resources.

Date revised: 10/07/14