

Common Course Outline
CSIT 267
iOS Application Development
4 Credits

Community College of Baltimore County

Description

CSIT 267 – 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: 06/26/19