

Common Course Outline
CSIT 166
Introduction to Mobile Applications Development
4 Credits

The Community College of Baltimore County

Description

CSIT 166 – 4 credits - Introduction to Mobile Applications Development introduces students to the various platforms in use on small and mobile devices. Students will create applications for each platform using specialized development environments.

4 Credits

Co-requisite: CSIT 111 or the consent of program coordinator.

Overall Course Objectives

Upon completion of this course students will be able to:

1. research and evaluate mobile platforms, their tools, and the development process;
2. analyze software development kits for each platform;
3. identify the development cycle for mobile devices including building, testing, and deployment;
4. design and construct applications for mobile devices;
5. design and construct cross-platform web applications for mobile devices; and
6. assess projects in emulators for each platform.

Major Topics

- I. Small device development
 - A. Platform architecture
 - B. Comparing life cycles
 - i. iOS
 - ii. Android
 - iii. Windows phone
- II. Best practices for small device programming
 - A. Object-oriented programming
 - i. Encapsulation
 - ii. Inheritance
 - iii. Polymorphism
 - B. Design patterns
 - i. Model-view-controller
 - ii. Delegates
 - C. Optimization
 - i. Strings, buffers, and operations

- ii. Loops and conditional statements
 - iii. Memory management
- III. Android
 - A. Review of the architecture
 - B. Introductory apps (applications)
 - C. Advanced apps
 - D. Packaging and deploying applications
- IV. Apple
 - A. Objective-C
 - B. Introductory iOS apps
 - C. Advanced iOS apps
 - D. Packaging and deploying iOS apps
- V. Microsoft Windows phone
 - A. C#
 - B. Introductory apps
 - C. Advanced apps
 - D. Packaging and deploying apps
- VI. Web applications
 - A. Developing for mobile browsers
 - B. Choosing an editor
 - C. Web technologies
 - D. Testing in emulators
 - E. Advanced topics
- VII. Cross-platform development
 - A. Basic apps
 - B. Advanced apps
- VIII. Installation and setup
 - A. Android
 - B. Apple iOS
 - C. Windows phone

Course Requirements

Grading procedures will be determined by the individual faculty member, and include:

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

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

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