

WEB 151: MOBILE APPLICATION DEVELOPMENT

COURSE DESCRIPTION:

Prerequisites: CSC 121, CSC 151, CSC 153, or CTI 110

Corequisites: None

This course introduces students to programming technologies, design and development related to mobile applications. Topics include accessing device capabilities, industry standards, operating systems, and programming for mobile applications using an OS Software Development Kit (SDK). Upon completion, students should be able to create basic applications for mobile devices.

Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

- A. Create a mobile application using the Swift programming language.
- B. Debug a mobile application written in the Swift programming language.
- C. Test a mobile application written in the Swift programming language.

OUTLINE OF INSTRUCTION:

- I. Getting to know the lab environment
- II. Writing Our First App
 - A. The xCode Playground
 - B. Variables and Constants
- III. An Introduction to Swift (up to Classes and Structures)
 - A. A Simple User Interface
 - B. Decision Structures
 - C. Loops
 - D. Functions
 - E. Classes, Structures, and Arrays
- IV. User Interactions
 - A. Text Editing
 - B. Number formatters
 - C. Delegation
- V. Advanced UI Interactions – View Controllers
 - A. Setting Up View Controllers
 - B. TabBarController

- C. Loaded and Appearing Views
- D. Interacting with View Controllers

- VI. More about Swift
 - A. Enumerations and Switch
 - B. Using Apple Documentation
 - C. Two page Apps, and UINavigationController

- VII. Graphics and Camera
 - A. Displaying images
 - B. Animation Effects with Images
 - C. Saving an Image

- VIII. Final Project