

CSC 118 Swift Programming I

COURSE DESCRIPTION:

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

Corequisites: None

This course introduces the development of iOS applications and Apple applications using Swift programming language. Emphasis is placed on syntax, object-oriented principles, memory management, and functional concepts of Swift programming. Upon completion, students should be able to develop fully functional iOS and Apple applications using Swift programming language.

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

LEARNING OUTCOMES:

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

1. Create an application using the Swift programming language.
2. Debug an application using the Swift programming language.
3. Test an application using the Swift programming language.

OUTLINE OF INSTRUCTION:

- I. Getting Started with App Development
 - A. Swift Lessons
 - i. Introduction to Swift and Playgrounds
 - ii. Constants, Variables, and Data Types
 - iii. Operators
 - iv. Control Flow
 - B. SDK Lessons
 - v. Xcode
 - vi. Building, Running, and Debugging an App
 - vii. Documentation
 - viii. Interface Builder Basics
- II. Introduction to UIKit
 - A. Swift Lessons
 - i. Strings
 - ii. Functions
 - iii. Structures
 - iv. Classes and Inheritance
 - v. Collections
 - vi. Loops
 - B. SDK Lessons
 - vii. Introduction to UIKit
 - viii. Displaying Data

- ix. Controls in Action
 - x. Auto layout and Stack Views
- III. Navigation and Workflows
- A. Swift Lessons
 - i. Optionals
 - ii. Type Casting
 - iii. Guard
 - iv. Scope
 - v. Enumerations
 - B. SDK Lessons
 - vi. Segues and Navigation Controllers
 - vii. Tab Bar Controllers
 - viii. View Controller Life Cycle
 - ix. Building Simple Workflows

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.