

IT-2100: IOS APPLICATION PROGRAMMING

Cuyahoga Community College

Viewing: IT-2100 : iOS Application Programming

Board of Trustees:

December 2021

Academic Term:

Fall 2022

Subject Code

IT - Information Technology

Course Number:

2100

Title:

iOS Application Programming

Catalog Description:

Introduction to iOS application development using Apple's Xcode development environment. Students learn the basics of creating iOS applications using Swift. Covers simple user interfaces, use of library objects, and model-view development using UIKit or SwiftUI. Mac computer required with ability to download, install, and run the latest version of Xcode.

Credit Hour(s):

4

Lecture Hour(s):

3

Lab Hour(s):

2

Requisites

Prerequisite and Corequisite

IT-2650 Java Programming.

Outcomes

Course Outcome(s):

Develop applications using the Swift programming language.

Objective(s):

1. Demonstrate the use of simple types.
2. Use control flow in Swift to implement required business logic for an application.
3. Implement defined Swift functions tied to user-interface components using a model-view design.
4. Demonstrate the use of functions and closures using Swift.
5. Demonstrate the ability to debug Swift code using Xcode.

Course Outcome(s):

Analyze, define, and develop applications based on a set of business rules derived from the user community, business representatives, and standard application development guidelines.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Recognize the role of iOS library objects for input and output.
2. Demonstrate the use of object-oriented concepts in creating and implementing classes in Swift.
3. Develop a model-view driven user-interface using UIKit or SwiftUI.

Course Outcome(s):

Describe the process of distributing an application through the App Store.

Objective(s):

1. Demonstrate the process of preparing an app for publishing to the App Store using Xcode.
2. Describe the use of TestFlight to complete beta testing and final submission to the App Store.

Methods of Evaluation:

1. Quizzes and/or tests
2. Project
3. Assignments
4. Discussions
5. Oral and written presentation of mobile application
6. Creation of iOS application(s)

Course Content Outline:

1. Getting Started with Xcode
 - a. Creating a new project
2. The Swift language
 - a. Simple values
 - b. Control flow
 - c. Functions and closures
 - d. Objects and classes
 - e. Enumerations and structures
 - f. Error handling
 - g. SwiftUI essentials
 - i. Creating and combining views
 - ii. Building lists and navigation
 - iii. Handling user input
3. App design and layout
 - a. Composing complex interfaces
 - b. Working with UI controls

Resources

Apple Inc. (2021) *The Swift Programming Language: A Swift Tour*, Apple Inc.

Neuburg, M. (2020) *iOS 14 Programming Fundamentals with Swift: Swift, Xcode, and Cocoa Basics*, O'Reilly Media.

Keur, C., Hillegass, A. (2020) *iOS Programming: The Big Nerd Ranch Guide*, Big Nerd Ranch Guides.

Lim, G. (2019) *Beginning iOS 14 & Swift App Development*, Author.
