

App Development with Swift

Associate

Objective Domains

Earning the App Development with Swift Associate certification demonstrates knowledge of key computing concepts and a solid foundation in programming with Swift and SwiftUI. They'll demonstrate knowledge of the impact of computing and apps on society, economies, and cultures while exploring app development.

Planning and Design

- 1.1. Summarize the design cycle
 - 1.1.1. Brainstorm, plan, prototype, evaluate
- 1.2. Summarize how sensitive data can be protected and compromised
 - 1.2.1. Sharing personal and application information
 - 1.2.2. Security challenges
 - 1.2.3. Legal, ethical and socioeconomic impacts
- 1.3. Assess a visual design with accessibility in mind

XCode Project Navigation

- 2.1. Differentiate between basic file types
- 2.2. After an asset has been imported, recognize available assets and how they are used in a project
- 2.3. Import and/or use an asset
- 2.4. Select the appropriate actions to configure different areas of the user interface

Swift Language Usage

- 3.1. Write, call and/or evaluate the execution of functions
 - 3.1.1. Evaluate the use of argument labels, parameters and returns
- 3.2. Calculate the results when using various operators
- 3.3. Create and evaluate structures
 - 3.3.1. Declare the properties of a structure
 - 3.3.2. Initialize the properties of a structure
 - 3.3.3. Define methods
 - 3.3.4. Create an instance of a structure
 - 3.3.5. Use an instance of a structure



App Development with Swift

Associate

Swift Language Usage (Continued)

- 3.4. Create and manipulate arrays
 - 3.4.1. Declare and/or initialize an array with values
 - 3.4.2. Identify and/or modify an array element using its index
 - 3.4.3. Use and/or evaluate array properties and/or methods
- 3.5. Demonstrate how to control the flow of execution
 - 3.5.1. Create, analyze and predict loop structures and their results
 - 3.5.2. Create and interpret the outcome of conditional statements
- 3.6. Declare and/or evaluate constants and variables of different data types
 - 3.6.1. Differentiate between constants and variables
 - 3.6.2. Apply type inference
 - 3.6.3. Use explicit typing
- 3.7. Use the appropriate naming syntax
 - 3.7.1. Use appropriate camel casing
 - 3.7.2. Apply Swift identifier rules

View Building with SwiftUI

- 4.1. Differentiate between imperative and declarative programming
- 4.2. Create Content Views using Text, Image, Shape, and/or Color
- 4.3. Implement Modifiers including, but not limited to, .padding, .background, .frame, .foregroundColor, .font, and .resizable
- 4.4. Create Container Views (HStack, VStack, ZStack, Spacer) and arrange Views inside of Stack Views
- 4.5. Explain the View hierarchy produced by a program
- 4.6. Create and/or apply Interactive Views including, but not limited to, Button, TextField, Slider, and Toggle
- 4.7. Use @State Property Wrapper to control the appearance of a View

Debugging

- 5.1. Differentiate between syntax and run-time errors when building and running an app
- 5.2. Interpret error messages

