Annex 1

Teaching Manual for the New Program in the Project Spinaker for IMPK

1. Description of the IMPK program

Course title: IMPK Swift UI - Quick and Easy App Development for Apple Devices
Course subject matter: Creating Applications for Apple Devices Using the Swift Programming Language and the SwiftUI Framework

The aim of the course is to teach the basics of designing and developing applications for the entire range of Apple computers and mobile devices (traditional Mac computers, Apple iPads, Apple iPhones, and Apple Watches). In addition to typical topics related to actual techniques and best practices, part of the training will focus on preparing software in such a way that it can be immediately accessible to people with disabilities.
Mode of delivery: remote
Target audience: international students
Language: English
Author of the manual: Jolanta Soja

2. Learning outcomes

Knowledge outcomes

- Explains the syntax and basic elements of the Swift language, including data types, conditional statements, and loops
- Explains the syntax for defining and calling functions
- Explains the rules for defining structures and classes, as well as the differences between them
- Describes the behavior of optional types and their role in writing safe code
- Explains syntax elements related to selected collection types (Array, Dictionary) and enumerations
- Describes the role of protocols, closures, and extensions in creating expressive code
- Explains basic SwiftUI concepts, including the advantages of the declarative approach to designing views
- Explains navigation mechanisms typical for iOS and iPadOS platforms
- Explains data-passing mechanisms between views (@State, @Binding)
- Describes principles of designing, implementing, and testing accessible applications

Skills outcomes

- Writes syntactically correct Swift programs, properly using variables and constants while selecting appropriate data types
- Implements application logic using conditional statements, loops, and functions
- Implements appropriate data structures
- Uses suitable solutions to solve programming problems (enumerations, collections)
- Writes safe code, including the use of optional types
- Creates expressive code using protocols, closures, and extensions
- Implements views in SwiftUI, including data-entry forms
- Implements navigation between views and passes data between them
- Tests and improves applications to ensure accessibility principles are considered

Social competence outcomes

- Works independently and responsibly when completing programming tasks
- Adheres to professional ethics
- Takes user needs into account, including those of people with disabilities

3. Requirements for participants and instructors

Requirements for participants

- English proficiency at a minimum B2 level
- Access to a Mac computer or iPad with the latest version of the Swift Playground app installed (https://apps.apple.com/pl/app/swift-playground/id1496833156?l=pl&mt=12)
  - For a Mac computer, macOS version 14.0 or later is required
  - For an iPad, iPadOS version 17.0 or later is required

Requirements for instructors

- Certified Apple Trainer:
- Apple Certified Trainer – App Development with Swift (Edu channel)
- Apple Certified Trainer – App Development with Swift 4
- Apple Certified Support Professional
- App Development with Swift Associate
- App Development with Swift Certified User
- Knowledge of technical English at a minimum B2 level
- Experience in conducting training on Apple platforms in English: at least 450 hours