Everyone Can Code @ ‹Laboratoria›

Syllabus

Second Generation

2020

<Course Syllabus - Swift>

1. **Week 1**
   a. Basic Elements:
      i. Constants, variables, data types, strings
      ii. Tuples
      iii. Basic Operators
   b. Collections
   c. Control Flow
   d. Functions
   e. Structures and Classes
2. **Week 2**
   a. Closures
   b. Enumerations
   c. Properties
   d. Methods
3. **Week 3**
   a. Extensions
   b. Protocols
   c. Inheritance
4. **Week 4**
   a. Initialization
   b. Deinitialization
   c. Optional Chaining
   d. Type Casting
5. **Week 5**
   a. Generics
6. **Week 6**
   a. Opaque Types
7. **Week 7**
   a. Automatic Reference Counting (ARC)
8. **Week 8**

        a. Memory Safety

9. **Week 9**

        a. Access Control

10.   **Week 10**

        a. Advanced Operators

<Course Syllabus – App Development>

1. **Getting Started with App Development**
   a. Xcode
   b. Building, Running and Debugging
   c. Documentation
   d. Interface Builder

2. **Introduction to UIKit**
   a. UIKit
   b. Displaying Data
   c. Controls
   d. Auto Layout and Stack Views

3. **Navigation and Workflows**
   a. Segues and Navigation Controllers
   b. Tab Bar Controllers
   c. View Controller Life Cycle
   d. Workflows

4. **Tables and Persistence**
   a. App Anatomy and Life Cycle
   b. Model View Controller
   c. Table Views
   d. Intermediate Table Views
   e. Saving Data
   f. Complex Input Screens

5. **Working with the Web**
   a. HTTP and URLSession
   b. Decoding JSON
   c. Concurrency

6. **Protyping and Project Planning**
   a. App Personality
   b. Design Cycle and Project Planning

<Extra topics covered>

1. **Working with Git and Github**
   a. Basic commands
   b. Branches
2. **Project Management principles**
   a. Requirement analysis
   b. Software design
   c. Development and implementation
   d. Testing
   e. Software evolution
3. **Computer Science principles**
   a. Formal Languages and Automata Theory
   b. Compilers
   c. Operating Systems
   d. Databases
4. **Process to upload an app to the App Store**