Course: INTRODUCTION TO iOS APP DEVELOPMENT
Course number: INFO1-CE9982002
Class Timings: Sundays, 09/20/2015 – 10/11/2015, 9:00 am – 5:00 pm

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Office Hours: by appointment

Course Description

This course will start with basics of programming, then explain basic concepts of variables, loops, data structures, objects, delegates, classes, fundamentals of object-oriented programming and so on. It uses Objective-C and Swift. Students who take this course aim to ultimately be proficient in creating native iOS apps. This course prepares a student to be sufficiently proficient in the programming languages that are used to create native iOS apps.

Prerequisite

There is no prerequisite for this course.

Course Overview

New topics will be introduced each class. Concrete examples will be given in class after each concept is taught. Students will be given exercise drills to practice the concept in a laboratory setting. Home work will be given to try the concepts at home. Solution to the home work will be discussed in the following class. Students must have access to a Mac computer and have XCode software installed on it.

Lecture Layout

The class is designed to be interactive. Students can ask questions at any time. There will be a break for lunch and two short additional breaks. Students are expected to be present at all times when the class is not in break.

Textbook

A textbook is NOT required. Lecture slides will be available online. Also code samples created in class will also be available online.

Grading

Class Participation	10%
Attendance	10%
Final Project	80%

Outline of Topics

For pedagogical purposes, topics are not necessarily covered strictly in the order listed below.

List of Topics

1. Introduction.
    A. Understanding fundamentals of programming.
    B. Understand the concept of a variable, object, data structure.
    C. Understanding the concept of loops.

At the end of this unit students:

- Will be able to understand the logic flow of a simple computer program.
- Will be able to identify the different pieces that make a computer program.

2. Object-Oriented Concepts in Objective-C and Swift.
    A. Understand Inheritance, Polymorphism, Encapsulation and Abstraction.
    B. Understand Dynamic Programming.
    C. Comparison between C++, Java, Objective-C and Swift.

At the end of this unit students:

- Will understand basic principles of object-oriented programming as applied to a iPhone app.
- Will be able to compare and contrast several object-oriented languages.

3. iPhone apps must be written in Objective-C and/or Swift. Salient features of both languages will be covered.

At the end of this unit students:

- Will have sufficient proficiency in Objective-C/Swift to follow an iPhone app source code.

4. Introduction to iPhone app programming tools
    A. Xcode: Tool for writing and debugging the code.
    B. Interface Builder: Tool for creating screens and windows graphically.

At the end of this unit students:

- Will be proficient is using the iPhone app production tools.

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