FUNDAMENTALS OF PROGRAMMING WITH C#

COURSE OVERVIEW

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Total:8

Objectives

- Learn basic programming concepts using C# (C sharp) language as the medium

- At the end of the course, students will
  - Appreciate the need and importance of programming activities
  - Understand the concept of structured programming and apply them in practice
  - Able to write programs in C#
  - Able to write programs for various business situations
  - Sufficiently prepared for later courses, such as
    - Object Oriented Programming with C#

Prerequisites

- Basic computer knowledge in Windows environment

- Familiarity with command line interface

- Ability to use text editing software

- Good reasoning and logical ability

- Interest, patience and humility
  - You will make lots of mistakes, many of them will be stupid mistakes, and it's part of the learning process

Tentative Schedule

Day	Module
Day 1	Introduction to Programming Introduction to C# Using Visual Studio Handling Inputs and Outputs
Day 2	Variables and Data types Expressions and Operators Conditionals Statements
Day 3	Loops Random objects
Day 4	String Manipulation Arrays
Day 5	Modular Programming Revision – Q&A
Day 6	Revision – Q&A

Typical Daily Schedule

- Quiz
  - To practice on how to solve programming problem on paper with minimal trial and error

- Short revision
  - Short discussions on some problems to be discussed together

- Lecture
  - Learn about the concepts

- Workshop and Exercise
  - Apply the concepts by solving programming problems related to the lectures given
  - Students with strong programming background may complete all the problems earlier – can help others with weaker programming knowledge
  - Other students should use the time to reinforce the application of the concepts learnt. Ask your instructors and your peers when you are stuck.

Revision Days

- No Extra Lectures

- Students can continue working on programming problems, do the extra exercises and have the opportunity to discuss them with your instructor and peers

Grading Matter

- 20-30% of your Term 1 technical subject grade will be from FOPCS
  - Actual allocation will be determined at later date

- In-class exercises are not graded
  - Feel free to make as many mistakes as you want
  - Learn as you make mistakes

- You will write codes in exam
  - Minor syntax errors are OK
  - Logic errors and structural errors will be penalized
    - Logic refers to the approach that you take to solve the problem. If the approach doesn't work, then you can't get the full mark
    - Structure refers to the way to write and organize your code. Structural errors reflect lack of understanding of the proper structure of C# programs

References

- C# Programming Guide
  - https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/index
- C# Language Reference
  - https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/
- LeetCode
  - https://leetcode.com/
- HackerRank
  - https://www.hackerrank.com