C++ Fundamentals

Course Intro

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A guy that knows C++

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What We WILL Do

- Build an understanding of the C++ language, syntax and features

- Deal with C++ specifics and pitfalls, as well as good practices

- Use C++ standard libraries and external libraries

- Practice coding small C++ programs

- Have fun!

What We WON'T Do

X Cover programming basics (what a program/variable/loop is)

X Become C++ specialists

X Focus on algorithms and data structures

- But we will use them

X Cover OOP in-depth

- But we will make the first steps with creating classes & objects

The Curriculum

- Introduction to C++ & Basic Syntax

- Functions, Arrays, STL Vectors

- Strings and Streams

- STL Library Intro & STL Linear Containers (lists)

- STL Associative Containers (maps)

- OOP Basics: Classes and Objects

- Exam Preparation

The Lectures

- Explain C++ concepts & show those concepts with simple code

- Presentations are your lecture notes – re-read after lectures!

  - Video recordings will be available, but watching those takes time

- Lectures will have a lot of information in them

  - You will need to spend more time studying at home than in class

- Further reading – longer, more extensive & intensive version:
https://softuni.bg/trainings/1573/cpp-programming-february-2017

The Exam

- Course will end with an exam covering all topics

- 4 algorithmic tasks to be solved in 6 hours

- Strictly-defined input and output data

- Automatically evaluated by the Judge system

- Max exam points: 80

Homework

- Two types of homework, total of 20 points
  - Homework exercises (HE), peer-reviewed – 5 points
  - Judge Assignments (JA), exam format, <u>Judge</u>-evaluated – 15 points
- Each lecture will have a homework exercise
- There will be 3 Judge Assignments throughout the course
  - Each will give up to 5 points
  - About 1 assignment every 2 weeks
- Up to 10 Bonus Points (forum and peer-review participation)

Course Evaluation

- Course Total = Exam (80) + JA (15) + HE (5) + Bonus (10) = 110

- Getting a certificate – 75 points or more (grade 5.00)

- Passing the course – 40 points or more (grade 3.00)

- Other requirements:
  - Don't cheat on exams
  - Don't copy other students' homework
  - Be nice to fellow students ☺

C++ Basic Syntax

Questions?

https://softuni.bg/courses/