DD1331 Fundamentals of Programming 5.0 credits

Grundläggande programmering

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After the course, the student should be able to

- Independently and in a small group be able to design programs on up to approximately 400 lines in a modern programming language

- Use appropriate data structures for a given problem

- Use classes where it is appropriate

- Formulate and implement recursive algorithms

- Describe algorithms for searching and sorting and their properties

- Compare algorithms with respect to time needed

Course contents

- Basic computer science concepts

- Basic programming in Python

- Abstract data types

- Classes

- Recursion, hierarchical decomposition

- Classical data structures: lists, stacks, queues, hash tables, trees

- Classical algorithms for search and sorting

- Introduction to algorithm analysis

Several smaller programming assignments and a larger individual programming assignment with

high requirements of structuring and specification of included modules.

Course literature

Will be announced four weeks before the start of the course on the course web.

Examination

- TEN2 - Examination, 1.0 credits, grading scale: P, F
- LAB2 - Laboratory Assignment, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Assignment, 2.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.