DD1319 Programming Techniques 8.0 credits

Programmeringsteknik

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

Establishment

This official course syllabus is valid from the autumn semester 2023 in accordance with decision by the head of school: J-2022-2266.Date of decision: 20/09/2022

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 passing the course, the student shall be able to

- design programs without code repetitions
- divide a larger problem in manageable parts
- divide a program
- apply control structures
- design and present user friendly output
- create flexible applications
- choose appropriate names of identifiers
- design interactive programs
- use and design composite data types and classes
- transfer data between file and program
- review others' programs
- create static and dynamic web pages
- develop simple web applications

in order to be able to

- use programming to solve problems and in teaching in the upper secondary school
- apply the problem solving methodology also in other fields than programming
- discuss software development with experts
- assess commercial programs
- independently and in a group solve problems by designing programs of up to 500 lines in a modern programming language
- design a simple dynamic web page.

Course contents

Fundamental computer concepts. Programming in a modern programming language (Python). Data structures. Using simple graphics routines. Problem-solving through division into sub-problems. Program structuring. Several smaller programming assignments as well as one larger, individual programming assignment with strong emphasis on structuring and specification of included modules. Introduction to HTML and CSS. Introduction to web programming with for example JavaScript and PHP.

Examination

- LAB1 - Programming assignments, 1.5 credits, grading scale: P, F
- LAB2 - Computer-based test, 1.5 credits, grading scale: P, F
- LAB3 - Programming assignments, 3.0 credits, grading scale: A, B, C, D, E, FX, F

- LAB4 - Programming assignments, 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.