DD1343 Computer Science and Numerical Methods, part 1 7.5 credits

Datalogi och numeriska metoder, del 1

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

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

Establishment

Course syllabus for DD1343 valid from Autumn 2008

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 passed course the student is expected to be able to:

- utilize computers to solve technical problems
- break down problems into smaller manageable problems
- create user friendly and well-structured programs
- discuss concepts in computer science with correct terms
- find and use right technique for a given problem
- utilize Matlab for graphic utilization.

In more details the student is expected to be able to:

- utilize right technique to manage error caused by unsuitable program inputs
- create flexible programs
- find and use right data structure and technique for a given problem
- write technical documentation for your own programs.

Course contents

Introduction to how a computer works and introduction to computer hardware. Programming in a modern programming language (Python). Computer science concepts such as structures for algorithms and data. Principles for data abstraction, modularization, and program structuring.

During the second year the theoretical knowledge is applied in a programming project.

Course literature

To be announced at course start.

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- MAT1 - Calculation Tasks, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, 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.

Other requirements for final grade

Laboratory assignments (LAB1; 3 university credits)
Written examination (TEN1; 3 university credits)
Laboratory assignment in Matlab (MAT1; 1,5 university credits)

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.