DD2462 Advanced Course in Programming and Problem Solving, Part 2 10.0 credits

Avancerad kurs i programmering och problemlösning, del 2

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

Establishment

Course syllabus for DD2462 valid from Autumn 2008

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The student should be able to:

* correctly solve algorithmic problems while keeping a deadline

* analyze problems and choose appropriate techniques, algorithms and data structers

* use and adapt standard algorithms in areas such as graph theory, number theory and geometry to solve given problems

* work effectively in small groups while meeting deadlines

in order to

* compete successfully in international programming contests.

Course contents

Programming skills mainly in C and Java. Design and analysis of algorithms: dynamic programming, amortized analysis, estimating the complexity of an algorithm. Algorithms: computational geometry, graph algorithms, number theoretic algorithms, string matching.

Course literature

None.

Examination

- LAB1 - Laboratory Work, 10.0 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.

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.