



# DD1344 Fundamentals of Computer Science 6.0 credits

## Grundläggande datalogi

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 DD1344 valid from Autumn 2008

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Information Technology, 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

- use the algorithms and the data structures in the course to deal successfully with practical problems of the types occurring in labs and tests (these are all on the web),
- analyse the properties of algorithms in practical problems of the types occurring in labs and tests.

in order to

- develop computer scientific thinking and thereby get greater benefit from programming tasks,
- become a better programmer.

## Course contents

Classical data structures: stacks, queues, lists, priority queues, trees, graphs, hash tables etc.

Algorithms and algorithms analysis: searching and sorting, optimization, pattern matching, complexity measures, theoretical limits.

Abstraction techniques: abstract data types, interface.

Problem solving techniques: recursion, hierarchical decomposition, abstraction.

## Course literature

To be announced at least 2 weeks before course start at the web page for the course. Previous year: Pythonkramaren (compendium).

## Examination

- LAB1 - Laboratory Assignments, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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

A written examination (TEN1; 4,5 university credits). Programming assignments (LAB1; 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.