



DA2210 Introduction to the Philosophy of Science and Research Methodology for Computer Scientists 6.0 credits

Vetenskapsteori och vetenskaplig metodik för dataloger

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 DA2210 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Specific prerequisites

Language of instruction

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

Intended learning outcomes

Having passed the course, the student should be able to:

- explain and analyse scientific theories relevant for research in computer science,
- explain and analyse scientific methods relevant for research in computer science,
- review scientific articles in computer science with regard to theory, method and result critically
- identify methodological problems in a study
- identify ethical problems in different scientific situations and discuss them
- plan and carry out the writing of a scientific report.

Course contents

- The basic concepts within philosophy of science and research methodology, such as causality, data, correlation, hypothesis, inductive-deductive methods.
- Special methods and problems within computer science and mathematics.
- Research methodology within engineering projects.
- Experimental methodology.
- Ethics in science and the role of science in society.
- How to read and write scientific reports.
- Practical training in writing of scientific reports (similar to degree projects).

Disposition

Lectures that cover the main theoretical results and basic scientific methods.

Seminars, in which the students, in groups and individually, are trained in reading, describing and evaluating scientific experiments and reports.

Practical training to write shorter and longer scientific reports that apply the methods and theories that have been gone through during the course.

Course literature

Kurslitteratur meddelas senast 4 veckor innan kursstart på kursens hemsida.

Examination

- HEM1 - Exercises, 1.5 credits, grading scale: P, F
- HEM3 - Essay, 1.5 credits, grading scale: A, B, C, D, E, FX, 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

Exam and home assignments.

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.