



IC2002 Philosophy of Science

7.5 credits

Vetenskapsteori

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 IC2002 valid from Autumn 2008

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

For single-course students:

Bachelor degree/180 hp (120 old credits) in information technology, information systems, computer science or computer and systems sciences.

Language of instruction

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

Intended learning outcomes

The student upon completion of the course will be able to:

- give an account of important events in the history of science
- explain the (ideal and factual) requirements on scientific work
- describe his or her own view on science, and compare this to his or her view on engineering
- apply scientific theory to practical problems
- give an account of fundamental concepts of philosophy of science, and of ethics in science
- survey and present original texts in the area of philosophy of science
- instrumentalise scientific problems.

Course contents

The contents of the course will follow the main book closely, and deal with the following topics in the natural sciences.

- I. Science and Pseudoscience
- II. Rationality, Objectivity, and Values in Science
- III. The Duhem-Quine Thesis and Underdetermination
- IV. Induction, Prediction, and Evidence
- V. Confirmation and Relevance: Bayesian Approaches
- VI. Models of Explanation
- VII. Laws of Nature

The second book deals with those aspects of the philosophy of science that are special to the social sciences. These will be dealt with in the first two weeks.

Disposition

Scheduled activities are lectures, guest lectures and discussion groups/seminars.

Students moderate the discussion groups. This means that the student (together with 2-3 fellow students, depending on the number of attendees) leads and moderates the discussion. An examiner will participate, since the group discussions are part of the examination. Lectures are not mandatory, but each student must attend at least 70 per cent of the discussion group meetings, as an active participant.

The lectures will be given in English, and all kinds of student presentations are required to be in English.

Course literature

- Curd & Cover: Philosophy of Science: The Central Issues (Edition: 1), W W Norton & Co Ltd, 1998, 0393971759
Comments: Approximately half of the book's contents will be covered in the course.
- Garry Potter: The Philosophy of Social Science (Edition: 1), Pearson Education (Print on Demand), 1999, 0582369746
Comments: Available at student bookshop, at special low price.

Examination

- PRO1 - Report, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Active Participation, 3.0 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.

Mandatory group discussions with active participation and moderation (3 hp) will be graded as pass or fail. At the end of the course there is also a written exam (4,5 hp), in the form of an essay, to test individual abilities and understanding, graded on the ordinary 7-step scale A/B/C/D/E/Fx/F.

To pass the course, both the essay and group discussion part must be graded pass, and the course mark will be based on that of the essay. Students close to the requirements for passing the written exam will be given the opportunity to complete, to reach grade E, but not higher. Students will be notified of this opportunity at the time of return of examinations, and any completion must meet the time deadline set.

To pass the mandatory group discussions, the student should actively participate in (at least) all but two discussion groups, as well as moderate one discussion group should the examiner so require.

Other requirements for final grade

To pass the course, the student needs to pass on both exam parts. Final grade is based on the grade of the essay.

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.

