FIV3000 Philosophy of Science 7.5 credits

Vetenskapsteori

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

Establishment

Course syllabus for FIV3000 valid from Spring 2011

Grading scale

G

Education cycle

Third cycle

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 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 work 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 Under determination

IV. Induction, Prediction, and Evidence

V. Confirmation and Relevance: Bayesian Approaches

VI. Models of Explanation

VII. Laws of Nature

VIII. Inter-Theoretic Reduction

The compendium deals with those aspects of the philosophy of science that are special to the social sciences, and with other aspects not directly covered by the course book.

Disposition

Aside from the 2-hour lecturers, the course has seminars, which are part of the final examination. The seminars are, for reasons of pedagogy, different from a methodological perspective. PhD students follow the masters seminars plus two or three seminars. One of these focuses on the own work of the PhD students.

Lectures are not mandatory. The lectures will be given in English, and all kinds of student presentations are required to be in English.

The course is evaluated and developed according to the KTH policy for Course Analysis, see http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/kursanalys/kurs-analys-1.27204

Parts of the first seven out of nine chapters total in the main book will be part of the course. The book consists of about 1000 pages of original manuscripts, with an additional 400 pages

of editorial comments. Students are recommended to do a substantial amount of reading before the course starts, in order to keep up with lectures.

Course literature

Martin Curd and J. A. Cover (eds.): Philosophy of Science (Upplaga: 1 eller 2), W W Norton & Co Inc, 1998,

0-393-97175-9

Kompendier

Kompletterande artiklar och bokutdrag.

Martin Curd and J. A. Cover (eds.): Philosophy of Science (1st or 2nd edition), W W Norton & Co Inc, 1998,

0-393-97175-9

Compendium

Additional articles and book excerpts.

Examination

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.

At the end of the course there is a written exam (4,5 hp), in form of an essay, to test individual abilities and understanding, graded on the ordinary 7-step scale A/B/C/D/E/Fx!F.

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.

Other requirements for final grade

To pass the seminars, the student should actively participate in (at least) all but two. The marking of an essay start upon received proof that the student has read especially developed material and instructions on plagiarism, to be made available during the course.

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.