



# AK2050 Theory and Methodology of Science with Applications (Medical Ethics) 6.0 credits

Vetenskapsteori och vetenskaplig metodik med tillämpningar (medicinsk etik)

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Course syllabus for AK2050 valid from Autumn 13

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

**Grading scale:** A, B, C, D, E, FX, F

**Education cycle:** Second cycle

**Main field of study:** Built Environment

## Intended learning outcomes

After completed course, the student should be able to

- account for and apply fundamental concepts from the theory and methodology of science on problem areas within the theory and methodology of science
- account for fundamental theories concerning the epistemological and explanatory status of science
- identify and critically discuss, both orally and in writing, fundamental theoretical and methodological issues in the technical, natural and social sciences
- identify and critically discuss, both orally and in writing, specific methodological problems in a study, the design of an experiment, the use of a particular method of measurement, or the use of a particular model
- analyze the relationship between the basic results of a study and the conclusions that legitimately can be drawn on the basis of the results
- identify and critically discuss fundamental theoretical and methodological problems within the student's area of study
- identify and critically discuss problems within the field of medical ethics.

## Course main content

The following is an incomplete list of topics covered in the course.

- Scientific knowledge
- Hypothesis testing
- Causes and correlations
- Observations and measurements
- Experiments
- Models
- Law and explanations
- The development of science
- Research ethics
- Scientific papers and peer review
- Medical ethics

## Disposition

Lectures, seminars, and project work.

## Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

## Eligibility

180 ECTS credits university studies, including at least 1.5 ECTS credits in medical ethics. Proficiency in English corresponding to English B in Swedish *gymnasium*.

## Literature

Meddelas senast vid kursstart. Tidigare har använts:

- Sven Ove Hansson "The Art of Doing Science" (kompendium)
- Artiklar som delas ut.

## Examination

- PRO1 - Project, 1.5 credits, grading scale: P, F
- SEM1 - Seminars, 1.5 credits, grading scale: P, F
- TENA - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

## Requirements for final grade

Seminars (SEM1; 1.5 credits), written exam (TENA; 3 credits), and project work (PRO1; 1.5 hp).