



# AH2014 Theory and Methodology of Science 7.5 credits

## Theory and Methodology of Science

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 AH2014 valid from Autumn 2009

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

## Language of instruction

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

## Intended learning outcomes

The aim of the course is to provide a deeper understanding of the methodological and underlying philosophical issues that arise in science, in particular the social sciences, and inspire to reflection on such issues within the student's own area of study. The course introduces key concepts in the philosophy and methodology of science. This version of the course has a special focus on philosophical and methodological issues arising in the social sciences

Learning outcome:

After the course the students should have acquired basic knowledge of the foundational issues in the methodology and philosophy of science, especially as regards the social sciences.

## Course contents

- Introduction to the concepts knowledge, truth and belief
- The distinction between subjectivity, intersubjectivity and objectivity
- Causality vs. covariation,
- Scientific explanation, observation and measurement,
- Issues in the methodology of the social sciences,
- Quantitative vs. qualitative methodology,
- The path from science to policy,
- Hypothesis testing: verifying and falsifying hypotheses,
- The nature of scientific models and simulations
- Research ethics.

## Course literature

To be announced. Contact Kristina Nyström ([krny@infra.kth.se](mailto:krny@infra.kth.se)) or Borje.Johansson ([borje.johansson@infra.kth.se](mailto:borje.johansson@infra.kth.se)).

## Examination

- TEN1 - Examination, 7.5 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.

Active participation. Take-home test, written exam

## Other requirements for final grade

Active participation. Take-home test, written exam.

## 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.