



# AK2055 Theory of Science and Research Methodology for Teachers 4.0 credits

Vetenskapsteori och forskningsmetodik för lärare

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 AK2055 valid from Autumn 2015

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

The student has to fulfil the general KTH requirements for promotion from year 3 to year 4 (term 7). In the CL education program this means that a total of at least 150 credits from years 1-3 must be completed, of which at least 110 credits from years 1-2.

## Language of instruction

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

## Intended learning outcomes

After completed course, the student is expected to

- be able to summarize important methods and different methodological traditions in the natural and social sciences,
- be able to outline and discuss the pros and cons of different methods in a given research situation,
- be able to account for methods, ways of thinking, and endeavours that are common to all sciences,
- be able to account for the differences between science and other investigative or knowledge-compiling activities,
- be able to discuss and assess, using given examples, where to place an activity on a science vs. pseudoscience scale.

## Course contents

Outline of research methods in natural and social sciences. Common methods and aims in scientific work (including discussions of hypothetico-deductive, inductive and deductive methods, the formation of hypotheses, and explanations). The differences between scientific research and other investigative activities (inquiries, consultancy work, etc.). The science vs. pseudoscience demarcation.

## Disposition

Lectures, seminars, students' own reading and writing work.

## Course literature

Course literature will be assigned no later than four weeks before the course start.

## Equipment

None.

## Examination

- SEM1 - Active Participation in Seminars, 1.5 credits, grading scale: P, F
- TEN1 - Written Assignment, 2.5 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.

## Other requirements for final grade

Active seminar participation and passed written assignment.

## 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.