



# MJ2673 Research Methodology and Theory of Science 7.5 credits

Forskningsmetodik och 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 MJ2673 valid from Spring 2017

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

At least 150 academic credits in a program of engineering or natural science including documented proficiency in english B or equivalent.

## Language of instruction

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

## Intended learning outcomes

After finishing the course, the student should be able to:

- Reflect on what is science and underlying ideas for its different paradigms
- Reflect on true and false science
- Debate about the role of science in society
- Explain requirements on a scientific work.
- Explain the most common scientific methods and tools for sustainability research, such as case study, participatory backcasting, surveys, interviews, data analysis and experimental methods.
- Explain and apply rules for copying, citation and referencing.
- Critically review and constructively comment on a finalized thesis work/scientific paper according to aims, relevance, objectives, methods/theory, evidence and uncertainty of results.
- Design a framework for own Master thesis work/research paper, including thesis structure, research question/hypothesis, aims, relevance, methods and generalization of results.

## Course contents

The course Research Methodology and Theory of Science will give you deeper understanding of science and its different paradigms. The course will facilitate your skills in doing research projects and carrying out your Master thesis work. The course will cover quantitative and qualitative methods for sustainability research.

## Disposition

Lectures: 5 \* 2 h

Seminars: 2 \* 4 h

## Course literature

Presenteras vid kursstart

## Examination

- NÄR1 - Attendance, 1.5 credits, grading scale: P, F

- PRO1 - Project Work and Presentation, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- UPP3 - Home Assignment 1, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- UPP4 - Home Assignment 2, 1.5 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.

## **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.