



# FLF3002 Theory, Methods and History of Technology and Engineering Sciences 7.5 credits

Teknikvetenskapens vetenskapsteori och idéhistoria

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 FLF3002 valid from Autumn 2014

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

Admitted to third-cycle programmes

## Language of instruction

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

## Intended learning outcomes

Give examples and account for one of the trends in the emergence of the global science community.

Account for and compare the fundamental features of one of the classical theories of knowledge.

Identify some common research approaches and reflect on their strengths and weaknesses.

Be able to formulate your own research plan, including ethical considerations, and explain the chosen research approach by referring to the perspectives presented in the course.

Formulate constructive criticism/feedback to other doctoral students (presentations and project)

## Course contents

Part 1: The history of ideas within technological sciences, 2.5 credits.

The emergence of the global science community.

The study of classics of the theory of science

Part 2: The theory and method of the technological sciences, 5 credits

The research process (academia/industry, technically enhanced learning, cultural aspects)

Qualitative and quantitative aspects of research methods such as questionnaires, interview studies, textual analysis, observational studies, ethnographic studies and case studies.

Action/Design based research

Research ethics

## Disposition

Seminars and lectures.

## Course literature

Cohen, L; Manion, L; Morrison, K. (2011). *Research Method in Education*. Routledge

Latour, B (1987). *Science in Action, How to Follow Scientists and Engineers through Society*. Cambridge Mass. Cambridge University Press

Kuhn, T (1996). *The Structure of Scientific Revolutions*. 3rd Edition. The University of Chicago Press; Chicago and London.

Marshall, C. & Rossman, G (2006). *Designing Qualitative Research*. 4th Edition. Sage

samt ett urval artiklar/texter enligt överenskommelse med kursledningen.

## 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.

## Other requirements for final grade

A pass grade on all parts

## 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.