



# FDD3001 Research: Theory, Method, Practice 7.5 credits

Forskning: teori, metod, praktik

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 FDD3001 valid from Spring 2009

## Grading scale

undefined

## Education cycle

Third cycle

## Specific prerequisites

## 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 you should be able to:

- discuss and analyze the different value judgments that research communities recognize, in a broad area of research covering at least the CSC school of KTH, be able to evaluate research questions in these areas and relate them to principles and theories proposed in the philosophy of science and technology
- find relevant and valid information on ethical principles guiding your conduct as researcher, and be able to apply it in your daily life as researcher
- present your research and to plan presentations for different purposes. In these you should be able to find and communicate suitable motivations why your work leads to a better society - sustainable, bearable, robust, exciting, etc.
- present yourself, to an appropriate level of detail, as a researcher in different social contexts
- find relevant information and procedures for financing research, fundamental and applied, and present rhetorically appropriate research plans for different financing agencies, written as well as oral and social.

The learning goals for this course are NOT:

- writing, reading, talking, powerpointing, listening:

You are assumed to know this, but there are other relevant courses available if you need training in this

- practical training in your research discipline:

this is done in your research lab, with your colleagues and advisors.

## Course contents

The concept of scientific truth. Positivism and postmodernism.

Development of research as a practice and paper based system.

Role models.

Examples of paradigm shifts and controversies in research areas.

Establishing research results and findings.

Discourse oriented research.

Evidence based social/medical research.

Statistical inference foundations.

Rhetoric of scientific papers and applications, CARS model.

Research in the media.

Research ethos & pathos.

Ethics in research: colleagues, goals, public image.

Example guidelines/legislation on practice, ethics and publication.

Misconduct and enforcement system.

Career planning, bibliometrics.

Advisor/student interaction.

Discourse of excellence and administration.

## Course literature

Course compendium.

One of the two:

J. Hoffman, C. Johnson, A. Logg: Dreams of Calculus;  
Perspectives on Mathematics Education.  
Springer 2004, XIII, 158 p., Softcover ISBN: 978-3-540-21976-7  
Ann Oakley: Experiments in Knowing: Gender and Method in the Social Sciences.  
New York: The New Press, 2000.

## 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.

Examination is negotiated between examiner and student. Normally each student should do two of the following: a reading assignment in his/her area of specialization; analyze a paper/grant proposal; write a paper/grant proposal with attention to rhetorical (ethos, pathos, CARS) aspects; write a short paper analyzing a controversy in science, technology or philosophy, or on a similar topic of your own choosing that is approved by me. Lectures given by external lecturers are compulsory, in the sense that relevant alternative assignments will be handed out for those that you miss.

## 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.