



# FAH3459 Models- Uncertainty in Modelling 7.5 credits

Modeller- osäkerhet i modellering

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 FAH3459 valid from Spring 2012

## Grading scale

## Education cycle

Third cycle

## Language of instruction

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

## Intended learning outcomes

After completion of the course, the student should:

- understand what it implies to model a phenomenon and be able to explain various types of models.
- be able to explain different techniques to evaluate models.
- understand and estimate the uncertainty in chosen models.

- with chosen models test appropriate hypotheses.

## Course contents

The course intends to give a basic introduction to mathematical models and modeling uncertainty. Various types of models are treated and validated. Different kinds of uncertainties are highlighted. The course treats modeling within a number of subject areas and covers amongst others uncertainty in input data, model parameters and model structures, as well as hypothesis testing under uncertainty. The course further treats stochastic and deterministic simulation as well as various types of networks, including neural networks. Applications to different subject areas will be analysed.

## Specific prerequisites

Completion of basic higher education.

## Course literature

Fastställs i överenskommelse med de studerande beroende på deras intresseområde.

## 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.

P/F

## Other requirements for final grade

Examination 3.0 Credits

Written assignment 4.5 Credits

## 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.

