# FSF3890 Projects within Industrial and Applied Mathematics 5.0 credits

## Projekt inom industriell och tillämpad matematik

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 FSF3890 valid from Autumn 2019

## Grading scale

P, F

## Education cycle

Third cycle

## Specific prerequisites

The course is intended mainly for PhD students in Mathematics and in Applied and Computational Mathematics.

## Language of instruction

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

## Intended learning outcomes

The student should demonstrate the ability to:

- Apply relevant knowledge and skills to a given industrial project within applied mathematics,
- Collect additional knowledge and information necessary for the completion of the project
- Work cooperatively in a group towards solving problems in the project
- Select appropriate mathematical tools and models to address industrial problems
- Analyze the models; explain, motivate, and discuss consequences of assumptions and approximations
- Communicate professionally and present scientific results, by writing technical reports, and by giving oral presentations.

## Course contents

The mathematical methods and theoretical frameworks depends on the industrial problem, and the topics may change from year to year and have different focus depending on which projects that are selected.

## Disposition

For example, the course could be structured as follows.

Week 1: Literature review. Read material on the problem and give a presentation on the material.

Week 2: The group work alongside industrial scientists on the problem.

Week 3-4: Write a report on the findings of the team.

## Course literature

A literature study on the subject is required. Reading can also be proposed by the examiner.

## Examination

- HEM1 - Home assignments, 5.0 credits, grading scale: P, 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.

The project is reported both in writing and orally in English or in Swedish.

Project Assignments, grade scale: P/F

## Other requirements for final grade

Project assignment, written report and presentation, 5hp

## 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.