# FEO3272 Project in Pattern Classification and Machine Learning 4.0 credits

## Projekt i mönsterigenkänning och maskininlärning

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 FEO3272 valid from Spring 2014

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

PhD students in Electrical Engineering or Computer Science who are following, or have passed, the corresponding theory course EO3270.

## Language of instruction

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

# Intended learning outcomes

After passing this course the student should be able to

- implement computational solutions to problems in data classification or regression, for example in the form of Matlab code,
- evaluate and critically analyze the results of the implementation, with focus on the potential consequences of model inaccuracies,
- present the approach and the empirical results in a scientific paper.

# Course contents

Each participant develops a computational solution to a selected pattern-recognition problem, collects empirical training and test data, and presents the implementation and the experimental results

# Disposition

One initial seminar where each student presents a selected application problem and possible solution approaches are discussed. Individual project work during a flexible period of about three months, with individual discussions with teacher and other advisors, as needed. Finally, a presentation seminar where each student presents a report about the implementation and experimental results.

# Course literature

Bishop, C.M (2006). **Pattern recognition and machine learning**. Springer.

# Equipment

Computer with Matlab.

# 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 based on participation in seminars and final written and oral project reports.

# Other requirements for final grade

Active participation in initial and final seminars. Presentation of the implementation and the experimental results as a brief written report and as an oral presentation. The presentation should have sufficient accuracy and quality to serve as a preliminary outline for later inclusion in a journal or conference publication.

# 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.