FEL3320 Applied Estimation 7.5 credits

Tillämpad estimering

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 FEL3320 valid from Autumn 2007

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

The overall goal of the course is to give the participants theoretical as well as practical skills and experience in estimation. The course will start from a number of concrete examples to motivate the need for various filtering techniques such as Kalman filters and particle filters.

After completing the course the participants should:

- be able to analyse estimation problems and choose suitable techniques to solve them
- understand the theoretical basis for the estimation techniques
- use different estimation techniques such as Kalman filters and particle filters to solve real world problems

Course contents

The course focuses on giving the participants practical experience in using different estimation techniques on real problems. Examples used in the course are for example from navigation with mobile robots.

The following will be covered in the course: Recursive estimation, the Markov assumption, estimation techniques such as Kalman filter, extended Kalman filter, Information filter, particle filter, Rao-Blackwellized particle filter.

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.

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.