



MF2043 Robust Mechatronics

6.0 credits

Robust mekatronik

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 MF2043 valid from Autumn 2010

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Language of instruction

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

Intended learning outcomes

The overall aim of the course is to provide deeper understanding of mechatronic design re hardware

After this course you should be able to:

1. Design a mechatronic system that is robust and take into account issues like EMC, analog and digital signals connected to a micro controller an even take care of the mechanic design together with electronic hardware.
2. Analyze weak parts and risks of the system.
3. Design and implement tests of mechatronic systems.

After this course you should have knowledge about:

1. Directives
2. Environment sustainability for electronics
3. Software dependent robustness.
4. Structured fault diagnosis.

Course contents

The course is built upon lectures, exercises. For some experiments you are building your own equipment. Models of modules is brought out which later could be simulated and designed.

The experiments are ended with short questionings in front of a laboratory assistant. The course is ended with a written examination.

Specific prerequisites

CMAST4, CDEPR4, CFATE4: SG1130/SG1131, SG1140, MF1016, EL1120/EL1000, DD1321/(DD1322+DD1324) or similar

CDATE, TIPUM, TIPDM, CDATE, TAEEM with First level course(s) in mechanics, electrical engineering, automatic control and programming

Course literature

Handouts and hopefully a good book.

Examination

- LAB1 - Laboratory Work, 2.0 credits, grading scale: P, F
- TEN1 - Written Examination, 4.0 credits, grading scale: A, B, C, D, E, FX, 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.

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.