MF2030 Mechatronics basic Course 6.0 credits

Mekatronik allmän kurs

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 MF2030 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Courses on Bachelor of Science level in mechanics and electrical engineering, SG1130 Mechanics I, SG1140 Mechanics II and MF1016 Basic Electrical Engineering or the equivalent.

Language of instruction

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

Intended learning outcomes

After passing the course, the students should be able to:

- Describe the basic building blocks of mechatronic systems
- Discuss if a mechatronic design might be feasible as a solution to a given functional problem formulation
- Sketch such a technical solution and select component types
- Identify critical problems/design issues and suggest feasible methods and tools to solve those
- Be able to summarize and on smaller problems apply a development model for mechatronic product development
- Model, simulate and synthesize (but not realize) smaller mechatronic systems and products
- Give several examples of additional (not directly functional) product requirements typically important for mechatronic products and summarize on a course level the implications of those requirements on the product design

Course contents

The course introduces and gives examples of mechatronic products and the various components, design alternatives, methods and tools used in mechatronics design. Real mechatronics design problems are identified and solved.

Examination

- INL1 - Hand in Task, 3.0 credits, grading scale: P, F
- TEN1 - Written Exam, 3.0 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.