MF1037 Design and Product Realization, Modelling and Simulation 9.0 credits

Design och produktframtagning, modellering och simulering

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 MF1037 valid from Spring 2011

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Language of instruction

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

Intended learning outcomes

After completing the course the students will:

- have applied their knowledge in mathematics, mechanics and numerical methods in a design and realization project.
- have applied and deepened their knowledge in design and product realization.
- have applied their knowledge and experience of working in teams on a design and realization project.
- be able to independently create models of products, in order to simulate their mechanical behavior

Course contents

This course addresses the design and product realization process by integrating skills previously acquired on mechanics, mathematics, and numerical methods, putting them in an design and product realization context, and methodically applying them in design and product realization project.

The emphasis in this course is not on studying a list of topics, but rather it is a project course. Students work in teams on a project, integrating skills acquired in earlier courses. The course is mainly an extension of the courses MF1046 Design and Product Realization – Introduction, but also requires basic knowledge in mechanics, mathematics, programming mathematical modes of physical system, and Computer Aided Design (CAD).

Some topics covered in the lectures include; basic design principles in mechanical engineering, basic modeling principles of the mechanical behavior of different products, programming mathematical models of the mechanical behavior of different products, an introduction to solid mechanics. Depending upon the project, other topics may be included.

Oral and written reports in Swedish are required.

Specific prerequisites

MF1046 Design and Product Realization – Introduction

Compulsory for
CDEPR1

Course literature

All literature from the other compulsory courses for CDEPR1.

Examination

- INL1 - Assignments, 3.0 credits, grading scale: P, F

- KON1 - Written Examination, 1.5 credits, grading scale: P, F
- PRO1 - Project, 4.5 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.

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.