



# MF1039 Design and Product Realization, Components 6.0 credits

Design och produktframtagning, komponenter

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 MF1039 valid from Spring 2013

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

SG1130, Mechanics I; SG1140, Mechanics II, SE1020 or SE1010, Solid Mechanics; Basic Knowledge in CAD that is equivalent in MF1060.

# Language of instruction

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

# Intended learning outcomes

The main goal of the course is to provide fundamental knowledge about development and production of desirable products. After the course the student shall be able to:

- analyse and simulate technical systems,
- identify and explain a selection of technical principles that realize a function,
- dimension standard components,
- compare and judge different solutions of engineering problems.

# Course contents

The course is problem oriented and is based upon analysis and dimensioning of standard components in technical products. Topics treated are:

- tools for calculation and dimensioning of components
- fasteners and power screws
- shafting and associated parts
- rolling element bearings
- journal bearings
- clutches and breaks
- transmissions

In parallel with the dimensioning part of the course there is some hand in tasks and laboratories which aims at training problem solving with respect to dimensioning and selection of technical solutions. The course intends to portray design and product realisation in a comprehensive view showing consideration for what makes a product desirable.

# Course literature

Maskinelement, Mägi M., Melkersson K., Evertsson M., Studentlitteratur, ISBN:9789144109053

Maskinelement Handbok, Maskinkonstruktion, KTH

SKF-katalog

# Examination

- INL2 - Hand in Excercises, 2.0 credits, grading scale: P, F

- TEN2 - 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.