ML1204 Machine Components 6.0 credits

Maskinkomponenter

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 ML1204 valid from Autumn 2017

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed courses with passing grades in:

- for TIMAS ML1101 and ML1302
- for TIIPS ML1101 and ML1601

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 student should be able to:

- identify and describe the purpose and function of common machine components
- select an appropriate machine component with regard to its function
- use catalogs and standards to design machine components for strength and durability
- applying ISO tolerances of industry standard machine components
- analyze and simulate selected machine components from a system perspective
- make assumptions and approximations in the design of machine components
- structure problem solving situations that lack a clear and unambiguous solution

Course contents

- Commonly used machine components;

  Springs; helical, disc, torsion and leaf springs
  Fastener; screws and rivets
  Brakes; disc and drum brakes
  Bearings; rolling and plain bearings
  Clutchess; ridgid, lamellar and centrifugal clutches
  Drives; gear and different types of belt drives

- Functional decomposition and function modeling
- Systematic problem solving and solution presentation

Disposition

The course consists of different course blocks each associated with one of the commonly used machine components.
Each course block consists of two (2) lectures that present the machine component to be studied.
Active participation is expected in all parts of the course.

Course literature

- Maskinelement, K-O Olsson, Liber

Examination

- INLA - Assignments, 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.

Other requirements for final grade

The final grade is based on the grade from the examination.

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.