



Course syllabus

Faculty of Technology
Department of Mechanical Engineering

2MT322 Maskinkonstruktion I, 7,5 högskolepoäng
Machine Design I, 7.5 credits

Main field of study

Mechanical Engineering

Subject Group

Mechanical Engineering

Level of classification

First Level

Progression

G2F

Date of Ratification

Approved by Faculty of Technology 2015-05-13
The course syllabus is valid from spring semester 2016

Prerequisites

Mathematics 22,5 hp, Mechanics, 7,5 hp, Machine technology, basic course, 7,5 hp, Engineering tools, 7,5 hp, Advanced CAD in 3D, 7,5 hp, Solid mechanics, 7,5 hp or equivalent.

Objectives

After completing the course the students are expected to have acquired

- basic knowledge of impact, surface and fatigue loading
- Understanding and knowledge about dimensioning of screws and welded joints.
- basic knowledge of machine design

Content

The course comprises the following elements:

- introduction into machine design
- the choice and dimensioning of some fundamental machine elements
- the design and dimensioning with regard to force flow, fatigue properties and the risk of machine damage
- the design of constructions with regard to impact loading

Type of Instruction

The teaching consists of lectures, exercises and ev. laboratory work/designproject. Some elements are compulsory. Information on the compulsory elements will be given at the start of the course.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The assessment of student performances usually takes place during special examination

periods and may take the form of project work, laboratory work, submitted assignments and written exams. The examination will be both written or oral.
For the designproject/laboratories the grades Pass or Failed will be given.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 2MT022

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Required reading

Juvinall, R. och Marshek M. Fundamentals of Machine Component Design Fourth Edition
Edition, John Wiley & Sons, INC 250
Standard sheets and company catalogues
Students' own material and handouts

Reference Literature

Filiz, I.H., Solves Problems: Machine Elements, Volume 1, ISBN: 978-9944-0132