Machine Elements

Programme course

6 credits

Maskinelement

TMKT39

Valid from: 2017 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2017-01-25

Main field of study
Mechanical Engineering

Course level
First cycle

Advancement level
G2X

Course offered for
- Design and Product Development
- Mechanical Engineering, M Sc in Engineering

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Mathematics, mechanics and solid mechanics

Intended learning outcomes
This course gives a general description of design, function and use of machine elements. After the course the student shuold be able to:

- describe the function of the most common machine elements.
- analyze the function of different machine elements use in mechanical designs.
- design and dimension machine elements in mechanical systems.
- compare and evaluate the suitability of fastning and transmission elements in mechanical systems.
- discuss the plausibility of the results.

Course content
Fastening elements (bolts, rivets, springs, shaft connections) and
Transmission elements (gears, couplings, brakes, belt drives).

Teaching and working methods
The basic content is given in lectures, and in supervised exercises. In a laboratory exercise the practical build-up of some elements is demonstrated.

Examination

TEN2	Written examination	5.5 credits	U, 3, 4, 5
LAB2	Laboratory work	0.5 credits	U, G

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Peter Hallberg

Examiner

Mikael Axin

Course website and other links

Education components

Preliminary scheduled hours: 50 h
Recommended self-study hours: 110 h

Course literature

Additional literature

Books

Karl-Olof Olsson, (2006) *Maskinelement*

Compendia

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.