



# SE1005 Introduction to Solid Mechanics 4.0 credits

## Introduktion till hållfasthetslära

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 SE1005 valid from Autumn 2016

## 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

When teaching engineering it is important to understand and be able to explain the working conditions of a product. For all products there are requirements on appropriate deformation and that it must not fail during usage. In this course the student will learn the basics of mechanical behaviour of materials and structures and how this knowledge can be used for the design of basic products and components with respect to stiffness and strength. With knowledge in solid mechanics the student can explain how to answer questions like "Will it hold?" and "Are the deformations too large?".

After finalising the course the student will be able to

- understand basic concepts in solid mechanics such as deformation, bending, torsion, stress, tension/compression, strain
- explain basic concepts in solid mechanics in a simple way
- identify examples in every day reality
- solve simple relevant problems

## Course contents

The course will give knowledge on basic concepts and principles in solid mechanics, knowledge about the mechanical behaviour of our most common design materials, skills in methods to solve important engineering problems in solid mechanics.

## Specific prerequisites

An introductory course in rigid body mechanics, for instance SG1102, or the equivalent.

## Course literature

Handouts

H.Lund, Grundläggande Hållfasthetslära, KTH, Hållfasthetslära , 2015

## Examination

- INL1 - Assignment, 1.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 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

Written examination TEN1, 3 credits  
Assignments INL1, 1 credit

## 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.