



# AF1005 Structural Engineering, Basic Course 7.5 credits

Byggkonstruktionslära, grundkurs

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 AF1005 valid from Spring 2014

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

For students not registered on a KTH programme:

120 university credits (hp) including Structural Mechanics basic course equivalent to at least 7,5 ECTS points. And documented proficiency in English corresponding to English B.

For students registered on a KTH programme:

## Language of instruction

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

## Intended learning outcomes

To give basic knowledge about the analysis and design of building structures regarding load bearing capacity.

## Course contents

- Principles for load bearing systems of different materials, such as concrete, steel and wood
- Simplification of real structural systems
- Loads and load distribution in buildings
- Trusses
- Calculation and drawing of diagrams for bending moments, axial forces and shear forces
- Calculation of longitudinal and shear stresses for common cross sections
- Strength of construction materials
- Application of the elastic curve on beams and columns
- Personal design project. Terrace of wood. The project contains simplified structural design and cost optimization

## Course literature

Meddelas vid kursstart

## Examination

- TEN1 - Examination, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Project, 3.0 credits, grading scale: P, F
- ÖVN2 - Exercises, 3.0 credits, grading scale: P, 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; 1,5 cr)  
Engineering task (ÖVN1; 3 cr)  
Exercises (ÖVN2; 3 cr)

## 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.