



# HS1004 Structural Mechanics 2

## 7.5 credits

### Byggmekanik 2

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

The course syllabus is valid from autumn 2019.

### Grading scale

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

### Education cycle

First cycle

### Main field of study

Built Environment, Technology

### Language of instruction

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

### Intended learning outcomes

After completing the course students shall be able to calculate the shear stresses in beams, draw NVM diagram for statically determinate frames and sloping beams, analyse simple statically indeterminate beams and calculate the critical load for columns with different boundary conditions. Students shall also be able to calculate characteristic loads and design loads in ultimate state for simple constructions.

## Course contents

- Shear stresses in beams
- Torsion of circular bars
- Statically determinate frames and sloping beams
- Statically indeterminate beams - flexibility method
- Buckling of columns
- Qualitative analysis of beams and frames
- Loading conditions
- Characteristic values for selfweight, imposed load and snow load
- Calculation of the design load in the ultimate limit state

## Specific prerequisites

Students in year 1 of the Bachelor of Science in Engineering programmes Constructional Engineering and Design or Engineering and Economics specialising in Constructional Engineering and Design.

## Examination

- INLA - Written Assignment, 2.5 credits, grading scale: P, F
- TENA - Examination, 5.0 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

To receive a final grade for this course, a passing grade on the submitted assignments as well as grade E or higher on the written examination are required.

Overall course grade is based on grade scale A-F.

## 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.