HS1021 Steel- and Timber Structures 7.5 credits

Stål- och träkonstruktion

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for HS1021 valid from Autumn 2017

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Students in year 3 of the Bachelor of Science in Engineering programme Constructional Engineering and Design

HS1008 Structural Design in Civil Engineering
or equivalent course

Language of instruction

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

Intended learning outcomes

Outcomes to receive an E grade:

Upon completion of this course, students will be able to calculate:

- Cross-section class for bending moments and bending moment capacity for steel beams with asymmetrical sections
- Moment capacity and compressive strain capacity for thin-walled steel beams in which local buckling occurs
- Lateral instability and flexural-torsional buckling in steel beams
- Indentation due to concentrated strain in steel members
- Screw and welded joints in steel structures
- Sway and instability in timber beams
- Ridge beams of glued laminated timber
- Holes and grooves in glulam beams
- Nail, screw and welded joints in timber structures

Course contents

- Design of steel beams with regard to buckling and lateral instability
- Design of screw and welded joints in steel structures
- Design of timber beams with regard to sway and instability
- Design of glulam beams with variable cross-sectional height and with holes and grooves
- Design of nail, screw, and welded joints in timber structures

Course literature

TRÄKONSTRUKTIONER enligt eurokoderna (Börje Rehnström, Carina Rehnström)

STÅLKONSTRUKTIONER enligt eurokoderna (Börje Rehnström, Carina Rehnström)

FORMELSAMLING stål & trä enligt eurokoderna (Börje Rehnström, Carina Rehnström)

Examination

- RED1 - Account, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

To receive a final grade for this course, a passing grade on the submitted assignments (RED1; 1.5 credits) as well as grade E or higher on the written examination (TEN1; 6.0 credits) are required.
Overall course grade is based on grading 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.