AF213U Design of Steel Structures According to Eurocode 3 15.0 credits

Dimensionering av stålkonstruktioner enligt Eurocode 3

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

Establishment

Course syllabus for AF213U valid from Autumn 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

120 university credits (hp) including courses Structural Mechanics and Structural Engineering equivalent to at least 2·times 7,5 ECTS points.

Language of instruction

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

Intended learning outcomes

The course gives knowledge and skills in the design of steel structures according to Eurocode 3 (EC3). The aims of the course are to learn not yet active designers relatively advanced design of steel structures and partly to ease the transition from BSK to EC3 for already active designers. After having completed the course the objective is that the student should be able to design structural steel components in general, especially for building structures and bridges.

Course contents

The term “steel structures” refers to systems of beams and columns including bolted and welded joints. All aspects of special importance for steel structures are treated, such as column buckling, lateral torsional buckling, plate buckling and fatigue. In short the course content is described by the following keywords: material properties, shear resistance with regard to shear buckling, moment resistance with regard to local buckling and lateral torsional buckling, axial resistance with regard to local buckling, flexural buckling and lateral torsional buckling, bolted connections, welded joints and fatigue.

Disposition

The course consists of lectures and exercises. The lectures are given at evenings, once a week between the hours 16 to 19. The students have time for some own work after the lectures (from 19 to 21), i.e. students will solve exercises related to the given lecture. Teachers are present and ready to help during this scheduled activity.

Course literature

Kurspärm innehållande all nödvändig litteratur för kursens genomförande.

Examination

- ÖVN1 - Exercises, 9.0 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

Approved design exercises and a written exam.

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.