



HS1734 Structural Design 7.5 credits

Projektering, konstruktion och design

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 HS1734 valid from Spring 2011

Grading scale

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

Education cycle

First cycle

Main field of study

Built Environment, Technology

Specific prerequisites

Eligibility to the degree programme in construction management

Language of instruction

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

Intended learning outcomes

This course teaches basic knowledge in planning methodology, the connection between design and structure, and how various building materials affect design.

Upon completion of the course, students will:

- Be able to systematically carry out a small planning job for construction works
- Have basic knowledge of the design of wood, steel and concrete structures
- Understand the importance of details on the whole and perceive the potentials and limitations of materials
- Be familiar with the history of structural engineering

Course contents

Planning methodology for new constructions and rebuilding projects

Individual exercises in which students will calculate wood and steel designs for small construction works

Lectures on various construction materials and their effect on configuration and architecture as well as the history of materials and their technical and static properties

Project assignment in repair, alteration and extension regarding changes to load-bearing structural elements

Course literature

Överslagsdimensionering av bärverk. förprojekteringens tidiga skeden: George Soronis Rapport 45, ISBN 1101-9468

Hellers, Bo Göran: Konstruktionselementens Systematik

Björk/Reppen: Så byggdes husen

Berg, Samuel A: Byggteknik BYT6, Lärnö AB

Recommended reading:

Cornell, Elias: Byggnadstekniken

Johannesson, Hans; Persson, Jan-Gunnar; Pettersson Dennis: Produktutveckling - effektiva metoder för konstruktion och design

Lundequist, Jerker: Design och produktutveckling - Metoder och begrepp

Koblanck, Maria; Åberg, Leif (red): Designmedvetenskap, Vetenskapsrådet

Landqvist, Jan: Vilda idéer och djuplodande analys. Om designmetodikens grunder. Institutionen för industridesign, Konstfack, Carlssons

Lundberg, Erik: trä gav Form

Mark, Robert: Architectural Technology Up To The Scientific Revolution

Nordling; Lars; Reppen, Laila: Ombyggnad, byggvägledning 15

Examination

- PRO1 - Project, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercises, 2.5 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

- PRO1 – Project, 5.0 credits, grading scale: A- F
- ÖVN1 – Assignments, 2.5 credits, grading scale: P/ 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.