



HS1001 Structure and Design

7.5 credits

Konstruktion och design

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

Establishment

Course syllabus for HS1001 valid from Autumn 2011

Grading scale

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

Education cycle

First cycle

Main field of study

Architecture, Technology

Specific prerequisites

According to KTH rules for promotion to year 3 and passed AF1730 Building Information Modelling 7,5 credits or equivalent.

Language of instruction

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

Intended learning outcomes

Upon completion of the course, the student shall have basic knowledge of the relationship between form, materials, construction techniques, building physics such as heating, humidity, noise, fire, and building services, as well as structure. The student shall have basic planning knowledge of small houses and blocks of flats.

Upon completion of the course, students shall:

- Have basic knowledge of housing planning and be able to apply this knowledge in a major housing project
- Have basic knowledge of the relationship between form, materials, construction techniques, installation techniques, and design
- Have basic knowledge of the constructions of timber structures
- Have basic knowledge of building physics for estimations and dimensioning for defined requirements for heating, humidity, noise, and fire
- Have thorough knowledge of a BIM programme and have applied this knowledge in a project
- Have knowledge of the importance of "sustainable construction"

Course contents

The course is organised around the following topics: planning, architecture, construction techniques, building physics, installations, and timber construction in a housing project. The purpose is to integrate learning in all of these subjects. Lectures, exercises and study visits are designed to provide students with the theoretical basis needed to design a large housing project.

Course literature

Arkitektens handbok, Anders Bodin med flera

Bygghandlingar 90 skolverversionen and distributed documents

Överslagsdimensionering av bärverk, förprojekterings tidiga skede, Georg Soronis Rapport 45, ISSN 1101-9458

Hellers, Bo Göran, Konstruktionselementets systematik

Sandin, Kenneth, Praktisk byggnadsfysik, Studentlitteratur

The literature list is subject to change at the beginning of the course.

Recommended reading:

Bostaden som arkitektur, Ola Nylander

Bostaden och kunskapen- Arkus

Bostadens rum- Chalmers arkitekter om bostadens kvaliteter

Att bygga ett land, arkitekturmuseet-byggforskningsrådet

Examination

- PRO2 - 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.

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

Other requirements for final grade

Passing grade on project work (PRO2, 5 credits). Grading scale A-F.

Passing grade on exercises (ÖVN1, 2.5 credits). Grading scale P/F.

80% attendance at lectures and participation in study visits.

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.