



# AF1710 Building Technology 1, Constructional Engineering and Design 7.5 credits

Byggteknik 1, husbyggnad 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 AF1710 valid from Autumn 2016

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## 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

## Language of instruction

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

## Intended learning outcomes

Upon completion of this course, the student shall:

- Have general geology knowledge
- Have general geotechnics knowledge
- Recognize building styles dating from the 19th century and on
- Be able to describe building construction techniques for small and medium-sized buildings
- Be able to describe connections between building elements in a building construction
- Recognize building materials, their constituent elements and production processes
- Be able to measure and create a drawing by hand
- Be able to create plan, elevation, sectional drawings for a small building using CAD
- Be familiar with the concept of BIM in building construction
- Be able to draw structural details in CAD
- Be able to describe the concept of sustainable construction for small and medium-sized buildings

## Course contents

- Lectures and exercises in drawing and creating construction drawings in CAD
- Lectures on geology and geotechnics
- Lecture on architecture
- Lecture on construction materials  
Materials discussed: Concrete, lightweight concrete, brick, stone, ceramics, wood, steel, thermal isolation, glass, plastic, and boards
- Lecture on foundation work
- Lecture on techniques for sustainable construction  
Building types, foundations, structural systems, bearing walls, columns, floor constructions, roofing, non-structural elements, facades, consideration of acoustics, fire, energy, and the environment in construction
- Lectures on construction techniques for connections
- Opportunities for assignments

## Course literature

Burström, P. G., Byggnadsmaterial, Studentlitteratur  
Cecilia Björk, Laila Reppen, Så byggdes staden, AB Svensk byggtjänst  
Samuel A. Berg, Byggt teknik BYT 3 grundläggning  
BBR, Boverket

### **Referenslitteratur:**

Kenneth Sandin, Praktisk husbyggnadsteknik, Studentlitteratur  
Cecilia Björk, Per Kallstenius m.fl., Så byggdes husen, Formas  
Isoverboken

## **Examination**

- TENA - Examination, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN2 - CAD-Exercises, 2.5 credits, grading scale: P, F
- ÖVNA - Exercises, 1.0 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**

Passing grade on exam (TENA; 4.0 credits), grading scale A-F

Passing grade on assignment (ÖVN2; 2.5 credits), presentation of paper blueprints and digital files, grading scale P/F

Passing grade on assignment (ÖVNA; 1.0 credits), punctual hand-in and presentation according to the course memo, grading scale P/F

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.