

Course syllabus

Arkitekturteknik 1: Arkitektur och bärverk

Architectural Design

VBKA05, 3 credits, G1 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED V

Date of Decision: 2023-03-21

General Information

Main field: Architecture.

Compulsory for: A1

Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to show how the construction of the frame system interacts with the possibilities of creating good architecture.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- understand the forces which are acting on a building
- be able to describe the function of the most common structural systems
- be able to describe the function of the most common load-bearing elements
- understand how load-bearing system and dimensions are affected by the materials strength and stiffness properties
- be able to describe different types of foundations
- understand how different lateral bracing methods work

Competences and skills

For a passing grade the student must

- be able to describe the forces acting in various load-bearing systems and load-bearing elements

- be able to describe how loads are transferred through the structure to the ground
- be able to describe how load-bearing systems of wood, concrete, steel, and masonry are designed

Judgement and approach

For a passing grade the student must

be able to realise how the technology of a building may be used to create good architecture

Contents

- Loads, system thinking
- Load bearing systems, structural elements form and function
- Forces, stability, deformation
- Strength, stiffness, stress and strain
- Structural systems of wood, concrete, steel, and masonry
- Foundations

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)

Assessment: Project assignment, written examination. Final grade is dependent on assessment of project assignment and final written examination.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0114. **Name:** Written Examination.

Credits: 2. **Grading scale:** UG. **Assessment:** Individual written examination. **Contents:** All course content.

Code: 0214. **Name:** Project Assignments.

Credits: 1. **Grading scale:** UG. **Assessment:** Pass grade for Project report and presentation. For the written assignment, not only the correctness of model, calculations and results is assessed, but also the quality of the presentation, i.e. structure and descriptive texts of the report. **Contents:** All course content.

Admission

The number of participants is limited to: No

The course overlaps following course/s: VBMA01

Reading list

- Eva Frühwald Hansson, Annika Mårtensson: Arkitektur och bärverk. 2018.

Contact and other information

Course coordinator: Annika Mårtensson, annika.martensson@kstr.lth.se

Further information: Course homepage on Canvas. Short information at www.kstr.lth.se/utbildning