Linnæus University

Jnr: 2021/3745-3.1.2.2

Course syllabus

Faculty of Technology
Department of Building Technology

1BY034 Byggnadstekniska konstruktioner, 7,5 högskolepoäng
Structural Engineering and Design, 7.5 credits

Main field of study
Civil Engineering

Subject Group
Building Technology

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved 2010-06-28
Revised 2021-10-07 by Faculty of Technology. Literature list is revised.
The course syllabus is valid from spring semester 2022

Prerequisites
Basic eligibility and Building Technology 1, 7,5 hp or the equivalent.

Objectives

After completing the course the student is expected to:

- have acquired basic knowledge of how structural elements, construction and materials affected by static load
- understand and describe the function of various components and systems
- have the ability to suggest suitable construction solutions on an overarching level
- have an understanding of and be able to explain the constructor's role in the building process
- predict critical phenomena that can occur when a structure charged with progressively increasing load.

Content
The course comprises the following elements:

- Common construction materials' inner structure and mechanical properties
- Construction element forms and their relation to structure composition and function
- The design of the structural system in interaction with architectural demands and ambitions as well as other demands concerning e.g. rigidity and strength
- The constructor's role in the building process
- Concepts, symbols and established definitions for a common language in the building process
- Laboratory exercises to train the understanding of how elements carry the load.

Type of Instruction
The teaching consists of lectures, exercises and laboratory work. Information on compulsory elements is given in the schedule.

Examination
The course is assessed with the grades U, 3, 4 or 5.
The course is examined through a written exam about the equivalent of 6 credits with grades U, 3, 4 or 5 and an active participation in a group project where an existing structure is analyzed with respect to how it carries cargo and a written report compiled. The latter group includes the work 1.5 credits and rate of U or G.

Course Evaluation
During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Required Reading and Additional Study Material
Required reading
Björn N. Sandaker, Arne P. Eggen och Mark R. Cruvellier The Structural Basis of Architecture, third edition, Routledge, ISBN: 978-1-138-65198-2. 576 pages