AF2101 Concrete Structures 7.5 credits

Betongbyggnad

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 AF2101 valid from Autumn 2021

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Language of instruction

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

Intended learning outcomes

After having passed the course the student should be able to:

- Explain the function of common structural elements of reinforced concrete and be able to illustrate this with drawings and sketches
- Explain the theoretical background to the yield line theory and the strip method for the analysis of reinforced concrete slabs
- Calculate the load bearing resistance of rectangular reinforced concrete slabs on walls according to the yield line theory, table method and strip method
- Calculate the load bearing capacity of rectangular reinforced concrete slabs on columns according to the strip method
- Explain punching of a concrete slab on a column

Course contents

- Reinforced concrete beams and columns
- Concrete slabs
- Pre-stressed concrete
- Bonded concrete overlays
- Laboratory testing

Specific prerequisites

Documented knowledge in Structural Mechanics and Structural Engineering equivalent to at least 3·times 7,5 ECTS corresponding to the content in courses AF1006, AF1005 and AF2003.

Eng B/6 according to the Swedish upper secondary school system.

Examination

- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercises, 3.0 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.

TEN1 - Examination 4.5 credits, grade scale A-F

ÖVN1 - Exercises 3.0 credits, grade scale P,F

Other requirements for final grade

All parts need to be passed

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.