AF2607 Rock Mechanics and Rock Engineering 7.5 credits

Bergmekanik och bergteknik

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

Establishment

Course syllabus for AF2607 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Fundamental courses in soil mechanics and foundation engineering.

Language of instruction

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

Intended learning outcomes

The objective of the course is to give the students knowledge in order to be able to design an ordinary tunnel or other underground opening. They shall also be able to write method statements for a tunnel excavation in Swedish bedrock.

Course contents

In the course the following will be taken up

- Pre investigations methods and interpretation
- Mechanical properties of the rock mass
- Rock mass classifications
- Stability problems for tunnelling
- Water in rock and leakage to tunnels
- Rock mechanical calculations
- Rock support and grouting
- Drill and blasting technology
- TBM tunnelling
- Time and cost estimation of tunnel projects
- Environmental disturbance from tunnel projects

Course literature

Will be announced at the beginning of the course.

Examination

- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 1.5 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

Written examination (TEN1; 6 cr) and laboratory work (LAB1;1,5 cr)

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.