



AF2602 Rock Mechanics 7.5 credits

Bergmekanik

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 AF2602 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

For students not registered on a KTH programme:

150 university credits (hp) including the course Fundamental course in soil mechanics and foundation engineering or equivalent and documented proficiency in English corresponding to English B.

For students registered on a KTH programme:

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 this course is to give the students basic knowledge in rock mechanics in order to be able to design different types of ordinary tunnels and underground openings in different rock formations. The aim of the course is to give basic knowledge with respect to rock engineering design, including the determination of: (1) intact rock and rock mass mechanical properties, (2) stresses and deformations around the excavation, (3) rock mass strength, (4) failure mechanisms and stability, as well as the design process and design methods.

Course contents

In the course the following topic will 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
- Advance rock mechanical analysis
- Rock support and grouting

Course literature

Rock Engineering by Arild Palmström and Håkan Stille

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 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.

Other requirements for final grade

Written examination (TEN1; 3 cr),
approved exercises (ÖVN1; 3 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.