



# AF2608 Tunnel Engineering 6.0 credits

## Tunnel Engineering

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 AF2608 valid from Autumn 2010

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Language of instruction

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

## Intended learning outcomes

When the course is done, those students taking part shall be able to:

Design tunnels, rock support and grouting and evaluate the most important issues in the procedure

Evaluate tunnel excavation method from technical and production aspects

Analyse cost and time for ordinary tunnels based on risks and construction management principles

Carry out a basic design of tunnel ventilation

## Course contents

- Engineering geology
- Tunnel blasting
- Tunnel Boring Machine
- Tunnel support
- Tunnel ventilation
- Grouting
- Environmental issues
- Tunnel cost, time and planning
- Tunnel contract
- Construction management
- Risk analysis

## Specific prerequisites

At least 120 credits academic studies in Engineering, Science, or Planning including documented proficiency in English B or equivalent (TOEFL, IELTS e.g).

AF 2602 Rock Mechanics

## Course literature

- Hoek and Brown: Underground excavation of rock
- Palmström and Stille: Rock Engineering

## Examination

- 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

- Ten1-examination, 4.5 hp
- Övn1-exercises, 3.0 hp

## 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.