



# HS1029 Geology and Soil Mechanics 7.5 credits

Geologi och geoteknik

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 HS1029 valid from Autumn 2017

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Built Environment, Technology

## Specific prerequisites

Students in year 2 of the Bachelor of Science in Engineering programmes Constructional Engineering and Design or Engineering and Economics specialising in Constructional Engineering and Design.

A minimum of 20 credits from the following courses:

HF1903 Mathematics 1

HF1004 Mathematics and Statistics

HS1003 Structural Mechanics 1  
HS1004 Structural Mechanics 2  
or equivalent courses

## Language of instruction

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

## Intended learning outcomes

Goals to receive a grade of E:

Upon completion of the course, students shall be able to:

- describe types of rocks and soils in Sweden, and their genesis, classification, names, and properties
- understand the effect of geological and hydrological processes on the landscape
- demonstrate basic knowledge of the presence and flow of water in ground
- interpret geological and geotechnical data
- conduct a simple analysis of soil samples in the laboratory
- conduct and report basic geotechnical calculations

## Course contents

- structure of the earth and geological processes
- geology of Sweden
- minerals and types of rocks
- soil formation, structure, composition and classification
- soil water and groundwater
- geological maps
- geotechnical investigation methods
- geotechnical sampling methods
- effective stress in soil
- soil settlement
- earth pressure
- slope stability

## Course literature

Isaksson, Therese: Kompendium i jord- och bergartslära  
Sällfors, G: Geoteknik, Chalmers

## Examination

- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercises, 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.

## Other requirements for final grade

Examination (TEN1, 6.0 credits), grade scale A-F

Exercises and laboratory work (ÖVN1, 1.5 credits), grade scale P/F

## 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.