



# 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

The course syllabus is valid from spring term 2020.

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Built Environment, Technology

## Language of instruction

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

## Intended learning outcomes

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
- sustainability investigation methods
- geotechnical sampling methods
- effective stress in soil
- soil settlement
- earth pressure
- slope stability
- sustainability issues relevant for geotechnical constructions

## Specific prerequisites

### Examination

- TEN<sub>1</sub> - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN<sub>1</sub> - 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.

The course is examined through a written exam (TEN<sub>1</sub>), exercises and laboratory work (ÖVN<sub>1</sub>).

## 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.