# AG1818 Geodetic Surveying 6.0 credits

## Geodetisk mätningsteknik

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 AG1818 valid from Autumn 2017

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

No additional entry requirements for students admitted to the Degree Programme in Civil Engineering and Urban Management (CSAMH).
Other students: Mathematics D

## Language of instruction

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

## Intended learning outcomes

The general aim of the course is to give an understanding of the methods and processes for geodetic measurement. This understanding implies that after the course the student should be able to:

- choose an appropriate method and instrument for a given task
- control and adjust measuring instruments
- plan, carry out and lead surveying project
- calculate coordinates, areas, volumes and draw map based on geodetic measurements
- evaluate the quality of various types of measurements (distance, angles, height differences) and the quality of the quantities that have been calculated from the measurements (coordinates, areas, volumes, etc.)

The students will also train and improve their general computer knowledge and skills in carrying out numerical calculations.

## Course contents

- Instruments and methods for geodetic measurement with total station, principles and practical measurement
- Geodetic infrastructure in Sweden: control networks and reference system
- Setting-out and detail surveying: planning, calculation of coordinates, practical measurement
- Height determination: instruments and methods
- Surveying in control networks: determination of coordinates for new control points
- Evaluation of quality of measurements and results: uncertainty analysis
- Planning and management of surveying projects

## Disposition

Lecture 16 hours

Laboratory work: 24 hours

Project: 8 hours

## Course literature

Lantmäteriet m.fl.: Geodetisk och fotogrammetrisk mätnings-och beräkningsteknik.

## Examination

- LAB1 - Laboratory work, 2.5 credits, grading scale: P, F
- PRO1 - Project work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 2.0 credits, grading scale: A, B, C, D, E, FX, 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, 2.0 credits, AF
- approved laboratory reports, LAB1, 2.5 credits, PF
- approved project report, PRO1, 1.5 credits, PF
- attendance on practical surveying exercises

## 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.