



# HS1005 Surveying and Mathematical Statistics 7.5 credits

Fältmätningsteknik med matematisk statistik

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 HS1005 valid from Spring 2011

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Built Environment, Technology

## Specific prerequisites

## Language of instruction

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

# Intended learning outcomes

Outcomes to receive an E grade:

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

- Calculate plane coordinates for new points using these surveying methods:
  - Polar coordinates
  - Rectangular coordinates
  - Intersection
  - Tying in
- Calculate elevation coordinates for new points using these surveying techniques:
  - Levelling
  - Trigonometric levelling
- Calculate the polar stakeout data for points
- Perform setting up, writing of protocols, and measurements using theodolites and levelling instruments
- Calculate measurement protocols
- Analyze measurement data with regards to major, systematic, and temporary errors

## Course contents

- Reference systems in a plane and elevation
- Polar and rectangular measurements
- Intersection, tying in, resection
- Traverse
- Free station point method, trigonometric levelling
- Polar staking out
- Taking measurements using GPS
- Geodetic theory of errors

## Course literature

Egeltoft, Tomas, Mätningsteknik  
Ackerberg, Björn, Exempelsamling i Mätningsteknik

## Examination

- TEN1 - Examination, 4.5 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, 4.5 credits), grading scale A-F

Passing grade on field exercises (ÖVN1, 3.0 credits) Grading 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.