



Faculty of Science

NGEA50, Surveying, 9 credits

Samhällsmätning, 9 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2013-11-06 to be valid from 2013-11-07, spring semester 2014.

General Information

Language of instruction: Swedish

Main field of studies

Physical Geography and Ecosystem
Analysis

*Depth of study relative to the degree
requirements*

G2F, First cycle, has at least 60 credits in
first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is to give basic knowledge about concepts and methods within geodesy, geodesic measurement technique, photogrammetry and remote sensing.

Knowledge and understanding:

To pass the course, the student should

- be able to explain the theory behind geodesic reference systems and map projections,
 - be able to explain basic concept of geodesy and satellite geodesy (GPS),
 - be able to explain geodesic measure - and calculation methods according to current regulations and norms,
 - be able to explain how one collects geographic information by means of remote sensing and photogrammetry,
- and

- be able to describe how geodesic and photogrammetric measurements are used within surveying and urban planning.

Skills and abilities:

To pass the course, the student should

- be able to apply appropriate methodology to solve planimetric and altimetric geodesic problems
- be able to carry out simple calculations by means of the least squares method
- be able to apply geodesic knowledge within the field of surveying and
- be able to program simple applications for planning purposes.

Assessment skills and approach

To pass the course, the student should be able to assess quality at geographic data that have been collected critically with geodesic and photogrammetric methods.

Course content

The course comprises the fundamental concepts and definitions of geodesy, geodesic reference systems, mappings, transformations, planimetry and altimetry, computational science and introduction to photogrammetry and remote sensing . Also applications of geodesic and photogrammetric measurement technique within surveying and civil service are treated.

Course design

The teaching consists of laboratory sessions and lectures and calculation exercises with and without computer-aid. Certain laboratory sessions require compulsory attendance. Examination takes place in writing with examination and via written assignments and laboratory reports during the course. For student who does not has passed the regular examination, further two are offered examination during the year.

Assessment

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.

Entry requirements

The student should have read the course NGEA11 Geographic information systems, basic course, NGEA12, geographic information systems, continuation and NGEA07 physical geography theory and methodology or the equivalent.

Further information

Webpage: <http://www.nateko.lu.se/exta50>

The course is the same as EXTA50 "Samhällsmätning" at LTH. The course may not be included in a higher education qualification tillsammans with EXTA45.

Subcourses in NGEA50, Surveying

Applies from H13

- 1301 Written Exam, 6,0 hp
Grading scale: Fail, Pass, Pass with distinction
- 1302 Laboratory Work, 3,0 hp
Grading scale: Fail, Pass, Pass with distinction