Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Engineering

1BY007 Geodesi med GIS, 7,5 högskolepoäng
Geodetic Surveying and Geographic Information System, 7.5 credits

Main field of study
Civil Engineering

Subject Group
Building Technology

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Organisational Committee 2009-07-24

The course syllabus is valid from spring semester 2010

Prerequisites
Basic eligibility and knowledge corresponding to Calculation Systems for Technology 7,5 hp, Civil Engineering I 7,5 hp.

Expected learning outcomes

After completing the course the student is expected to have acquired basic knowledge for performing measurement and setting out work within the building and construction field.
The student is expected to:

- be familiar with measuring techniques used in these contexts
- be able to use total stations, theodolites and levelling instruments
- be able to perform geodetic calculations
- be able to analyze and present geodetic measurement data
- be familiar with GPS and its use
- be familiar with GIS and its use

Content

The course comprises the following elements:
Geodesy:

- Geodetic surveying preconditions
- Geodetic and measurement technology concepts
- The use of levelling instruments

- The use of theodolites
- The use of total stations
- Mapping
- Field exercises
- Demonstration of other measurement techniques

GIS:

- Geographic information systems, GIS
- Systems of coordinates, map projections and reference systems
- Spatial data structures
- Data gathering and database techniques
- Analysis and presentation

Type of Instruction

The teaching consists of lectures, field exercises, laboratory work. All exercises and field work are compulsory Information on the extent of other compulsory elements will be given at the start of the course.

Examination

The course is assessed with the grades U,3,4 or 5.
The assessment of student performances is generally written and takes place during special examination periods. The assessment may also be based on written or oral presentations of project work, laboratory work and assignments.

Course Evaluation

When the course has finished, an evaluation is compiled. The results are reported to the students and then archived according to the rules of the school.

Required Reading and Additional Study Material

Required reading

Wrangö, Sam A compendium comprising lectures, indoor and outdoor field work, calculation exercises and instructions for various measuring instruments will be handed out by the course coordinator. 100 p.

Wellving, Anders. Geografiska informationssystem, Natur och Kultur, 2001
120 p.