



Course syllabus

Geodetisk mätningsteknik Geodetic Surveying

VGMA05, 6 credits, G1 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED V

Date of Decision: 2023-03-21

General Information

Compulsory for: IBYA1, IBYI1, IBYV1

Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to provide in-depth knowledge of concepts and methods in geodetic surveying, satellite geodesy (GPS) and photogrammetry with applications to real problems. The course creates an understanding of the interconnections of geodesy, map projections, satellite geodesy, geodetic surveying and photogrammetry.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- Explain the fundamental principles of geomatics.
- Describe the fundamental principles of satellite positioning.
- Understand and formulate solutions to different practical problems according to the rules and norms.

Competences and skills

For a passing grade the student must

- Apply the methodology to solve geodetic problems in plane and levelling measurements.
- Carry out simple levelling computations with the help of ordinary least-squares (OLS).
- Carry out simple practical fieldwork.

Contents

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The fundamental principles and definitions of geodesy, map projections, control point surveying, transformations, satellite positioning (GPS), plane and levelling measurements, theory of errors and adjustment and introduction to photogrammetry.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Written exam, project work, and participation in fieldworks.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

The number of participants is limited to: No

The course overlaps following course/s: VGMF15, VGM630

Reading list

- Ollvik, L.: Geodetisk mätningsteknik. Institutionen för teknik och samhälle, 2015.

Contact and other information

Course coordinator: Sadegh Jamali, sadegh.jamali@tft.lth.se

Course homepage: <http://www.tft.lth.se>