AH2914 Physical Geodesy 7.5 credits

Physical Geodesy

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 AH2914 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

AH2922 Map projections and reference systems

AH2923 Global navigation satellite systems

Language of instruction

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

Intended learning outcomes

Students shall obtain theoretical knowledge on the earth's gravity field and geoid determination and its geodetic applications

Course contents

1. gravitational law, Laplace's equation and boundary value problemsb.
2. gravity field, normal field and anomalous field of the earthc.
3. global gravitational field and spherical harmonic expansionsd.
4. Stokes' formula, Poisson's integral and Vening Meinesz formula
5. Trunction errors, combination of Stokes' formula with global gravitational modelsf.
6. Molodenski's theory, Bjerhammar's methods and collocation

Disposition

Lectures 28h

Laborations 36h

Course literature

Fan, H. (2008). Theoretical Geodesy. KTH.

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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 exam (TEN1; 4.5 cr)
Approved laboration (LAB1; 3 cr)

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.