AI1149 Geodata quality and time series analysis 6.0 credits

Geodatakvalitet och tidsserieanalys

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

The course syllabus is valid from Fall 2024 according to the Head of school decision:A-2024-0751.Decision date: 2024-03-21.

Grading scale

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

Education cycle

First cycle

Main field of study

Built Environment

Specific prerequisites

Knowledge in Geodetic Surveying corresponding to at least 1,5hp within course AG1818 Geodetic Surveying.

Language of instruction

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

Intended learning outcomes

On successful completion of the course, the student should show to be able to:

- assess different quality aspects of geodata

- evaluate geodata quality by means of the law of error propagation

- carry out least-square equalisation of measurement data

- apply different methods to analyse time series from measurements

Course contents

Quality aspects of geodata

- Error propagation and hypothesis test

- Least-square equalisation of measurement data

- Observation equations and linearisation

- Time series analyses in frequency domain: Fourier analysis, wavelet analysis

- Time series analyses in time domain: autoregression, curve fitting, interpolation, change detection

Examination

- LAB1 - Computational work, 3.0 credits, grading scale: P, F
- TEN1 - Written examination, 3.0 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

Approved examination (TEN1, 3.0 higher education credits)

Passed labs (LAB1, 3.0 higher education credits)

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.