



# FAG5128 Advanced Topics in Geodesy 15.0 credits

Geodesi högre kurs

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 FAG5128 valid from Spring 2015

## Grading scale

G

## Education cycle

Third cycle

## Specific prerequisites

Course FAG5129 Theory of errors

Course FAG5130 Satellite Based Positioning

1N5113 Theory of Science and Research Methods, Technological and Natural Sciences

Also the student must have passed at least one of the non-mandatory Ph.D. courses offered in geodesy.

## Language of instruction

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

## Intended learning outcomes

After the course the student should be able to:

- Understand some of the latest developments in geodetic research
- Find relevant scientific papers and relate solutions given in the papers to a practical problem
- Convert the theoretical solution to a practical solution which can be implemented in a software
- Demonstrate the applicability of the solution.

## Course contents

The course deals with the latest developments in geodetic research, and it is closely tied to the topic of the thesis for the student. The purpose of the course is provide the student with an extra opportunity to review research work within the thesis subject area and to identify specific problems or topics for further studies. The research area of the course is defined by the course responsible teacher in cooperation with the supervisor to make sure the topic of the course is linked to the Ph.D. thesis.

To complete the course the student must perform a literature review of selected journal papers, relate the theory studied to a scientific problem, define and implement a solution. The solution must be implemented and demonstrated in a computer program (e.g. Matlab) using simulated and perhaps real data.

## Course literature

H. Moritz, Advanced Physical Geodesy, Wichmann Verlag

A. Kleusberg and P.J.G. Teunissen, GPS for Geodesy, Springer

- supplemented with recent journal papers selected by the teacher to match the specific topic to be studied.

## Examination

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

Evaluation of written report.

## **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.