



# AH2923 Global Navigation Satellite Systems (GNSS) 7.5 credits

## Globala satellitnavigeringssystem (GNSS)

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 AH2923 valid from Spring 2011

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

For Singel Course students:

At least 120 credits academic studies in Surveying, Geomatics, Science, Economics or Planning including documented proficiency in English B or equivalent (TOEFL, IELTS e g).For Students enrolled in a program at KTH:

AH1815 Introduction to GPS or equivalent.

## Language of instruction

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

## Intended learning outcomes

Theoretical and practical basics of satellite positioning by the global systems: GPS, GLONASS, Galileo, etc. An introduction also to other geodetic satellite methods.

## Course contents

- History of satellite geodesy
- Satellite orbit computation and representations
- Signal propagation in the atmosphere
- Satellite positioning: systems, observables and computations
- Statistical concepts including Kalman filtering and smoothing
- Applications of GNSS. Other geodetic satellite systems

## Disposition

Lectures 24h

Laborations 48h

## Course literature

Sjöberg, LE (2009) Theory of satellite geodesy, KTH

Hofmann-Wellenhof, et al. (2008): GNSS, Springer

## 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.

- TEN1 - Written exam 4.5 credits, grading: A, B, C, D, E, FX, F
- LAB1 - Approved laboratory reports 3 credits, grading: P, F

## **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.