



AG1324 Photogrammetry and Remote Sensing 9.0 credits

Fotogrammetri och fjärranalys

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 AG1324 valid from Autumn 2021

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

- Completed AG1314 GIS and Surveying or equivalent
- English B and mathematics 4

Language of instruction

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

Intended learning outcomes

This course intends to provide the basics in theory, models and applications of analytic and digital photogrammetry, as well as to give students an overview of remote sensing concepts, the ways in which remote sensing systems are used to acquire data, how these data may be analyzed digitally, and how the information is used in various applications.

At the end of the course, students should have a good knowledge on how to acquire different types of remote sensing imagery and the basic algorithms to process and analyze remotely sensed images. Students should be able to apply and develop photogrammetry for production of spatial data and for non-topographic applications, to plan aerial photogrammetric spatial data production and to analyze the resulting quality. Students should also be capable of undertaking basic digital image analysis.

Course contents

Introduction to photogrammetry & remote sensing

Photogrammetric sensors & systems

Photogrammetric orientation, geometric properties, system error and correction

Photogrammetric products: maps, DEMs orthophotos

Aerial surveying and planning , quality aspect

Digital Images and digital matching techniques

Photogrammetry applications in cartography, GIS and civil engineering

Earth Observation satellites

Thermal remote sensing

Radar remote sensing

Digital image analysis: enhancement & classification

Remote sensing applications: selected examples

Examination

- LAB2 - Laboratory Work, 4.0 credits, grading scale: P, F
- PRO2 - Project, 1.5 credits, grading scale: P, F
- TEN2 - Examination, 3.5 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.

Lectures 22 h

Laborations 48 h

Other requirements for final grade

Approved written examination

Approved laborations

Approved project 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.