



HÖGSKOLAN I GÄVLE

Digital Photogrammetry 7.5 cr

Digital Fotogrammetri 7,5 hp

Set by Faculty of Engineering and Sustainable Development

Version

Set at	Valid from
12/14/11	VT2012
9/15/14	VT2015

Level	G1F
Education level	First cycle
Course identifier	SB212B
Credits	7.5 cr
Main field of study	Geomatics, Surveying Technology
Subject group	Geographic Information Technology and Surveying
Disciplinary domain	Technology 100.0 %

Learning outcomes This course aims at giving the student sound knowledge in Digital Photogrammetry, in theory as well as in practice.

After completion of the course the student shall be able to:

1. describe and explain the function of different photogrammetric sensor systems
2. perform planning of an aerial survey
3. explain the mathematical concepts of and perform image orientation and aerial triangulation
4. describe and use digital image processing techniques of importance for Photogrammetry
5. describe the process of generating Digital Elevation Models (DEMs) and orthophotos
6. perform stereomapping
7. produce DEMs and orthophotos from photogrammetric data and evaluate the results

Course content Fundamentals of Photogrammetry.
Photogrammetric sensor systems. Planing of aerial surveys.
Interior, relative and absolute orientation. Aerial triangulation
Digital image processing, e.g. segmentation, edge detection, matching and colour processing.

Stereomapping
DEMs; generation, interpolation techniques, evaluation and applications.
Orthophotos; geometrical aspects, tonal adjustment, mosaicking.

Teaching

Lectures and practicals.

Prerequisites

Photogrammetry and Image Processing 7.5 credits or Cartography 7.5 credits or equivalent covering basic Photogrammetry.
Geodetic Theory of Errors, 7.5 credits or equivalent

Examination

Written examination and Practicals.

Grade

A, B, C, D, E, Fx, F

Limitations

Each time the course is given there is one ordinary written examination and one re-examination.

Other regulations

Criteria for final grade will be handed out at the beginning of the course.

Sustainable environment

Content with sustainable development is not relevant to this course.

Module

0010	Written examination	4.5 cr	Grade: AF
0020	Practicals	3 cr	Grade: UG