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