

GEO 4520 – Course schedule - Advanced remote sensing and GIS

Lecture times: Tuesday, Wednesday 10-12 (Aud. II)

Lab times: Tuesday 12-16, Wednesday 12-16

Teachers: Andreas Käab (AK), Bernd Etzelmüller (BE), Bård Romstad (BR) and Chris Nuth (CN).

Requirements:

- 2 project reports (DEM generation and one more free choice/individual related to DEM analysis). Grades, 50%
- Four essays about selected topics, ~5-10 pages, incl. illustrations, literature list (pass/fail)
- Oral examination end of semester (if <8 students)

Week 37:

Tuesday, 8.9.: Introduction (one hour) (AK/BE), papers to read, groups
DEM generation from satellite data (AK)

Wednesday, 9.9.: DEM generation from satellite data (AK)
LAB: Tuesday, introduction to software, Wednesday: introduction to first project (DEM generation)

Week 38:

Tuesday, 15.9.: Image matching/terrain displacement (AK)

Wednesday 16.9.: Image matching/terrain displacement (AK)

LAB: LAB work

Week 39:

Self reading papers and preparation of essay on *mass movements from space by ...* Essay due Friday, 2.10..

LAB: LAB work whole week

Week 40:

Tuesday, 29.9. SAR (AK/NN)

Wednesday, 30.9. SAR (AK/NN)

LAB: Work project work

Week 41:

Self reading papers and preparation of *INSAR/PSINSAR/DINSAR* essay due Friday, 9.10..

LAB LAB work whole week

Friday, 9.10.: Essay due

Week 42:

LAB work whole week, project work presentations i lab hour

Friday, 16.10.: ***PROJECT report (Part I) due (for feed back)***

Week 43:

Wednesday, 21.10. Principles of Geomorphometry (three hours, BE)

LAB Introduction MATLAB,

Week 44:

Tuesday, 27.10. Surface models, terrain parameters calculation (BR)

Wednesday 28.10. Flow routing algorithms (BR)

LAB: Introduction Project work 2.

Week 45:

Self reading papers ***Application terrain parameters and flow routing algorithms***

LAB work whole week, Chris Nuth available for help in Visjonariet Tuesday, 12-14.

Friday, 6.11: Essay due.

Week 46:

Tuesday, 10.11. Distributed environmental models (BR/BE)

Wednesday, 11.11. DEM analysis and regional geohazard modelling (BR)

Week 47:

Self reading papers ***Application distributed terrain-based environmental modelling in geohazard***

LAB work

Friday, 20.11: Essay due

Week 48:

Wednesday, 25.11. Questions and student presentations to project work etc

LAB Student presentations of project work

Final project report due Friday, 4.12., 12.00