Applied land remote sensing, 3 credits

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Lund University

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The aim of this course is to provide students with skills in applied remote sensing with focus on applications regarding vegetation in terrestrial environments. We will try to adjust course contents to the actual interests and background skills of the applicants.

Time frame: This course will be given February 1-5 (Monday to Friday) 2016. 2.5 days of preparatory work (reading) and 2.5 days of work after the week in Lund make a total of 2 weeks, equivalent to 3 credits within the PhD education.

Preliminary Course content/schedule

<table>
<thead>
<tr>
<th>Day (2.5 days)</th>
<th>Date</th>
<th>Topic</th>
<th>Contents</th>
<th>Responsible teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>General Remote sensing- reading</td>
<td>Preparations/reading</td>
<td>ALL</td>
</tr>
<tr>
<td>1</td>
<td>Feb 1</td>
<td>Basic foundation of remote sensing of vegetation (radiation, reflectance, vegetation indices). Sensors and sensor systems. What type of information can be derived using remote sensing and how?</td>
<td>Lecture + exercise</td>
<td>LE+JA</td>
</tr>
<tr>
<td>2</td>
<td>Feb 2</td>
<td>Applied remote sensing – Aerial photos and LANDSAT Invited speaker</td>
<td>Lecture + exercise</td>
<td>Invited speakers</td>
</tr>
<tr>
<td>4</td>
<td>Feb 4</td>
<td>Use of time series / vegetation modelling in remote sensing, TIMESAT/Phenology</td>
<td>Lecture + exercise</td>
<td>LE</td>
</tr>
<tr>
<td>5</td>
<td>Feb 5</td>
<td>Light Use Efficiency, vegetation productivity Concluding presentations</td>
<td>Lecture + exercise Seminar</td>
<td>JA</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>Writing and handing in assignments/exercises.</td>
<td></td>
<td>ALL</td>
</tr>
</tbody>
</table>

*A detailed schedule will be available later on. In general there will be lectures in the mornings and exercises in the afternoon.

Teachers
JA Jonas Ardö
LE Lars Eklundh
KH Karin Hall
Application, including a short description of your background skills/experience in remote sensing, no later than November 27, 2015 to Jonas.Ardo@mateko.lu.se (phone 046-2224031).
PhD course: models and measurements in land remote sensing.

3 ECTS
Syllabus

1 Basic information
The course is at the postgraduate (PhD) level. It is intended as a continuation course for students with previous basic knowledge in remote sensing. Focus is on applied remote sensing of vegetation.

2 General information
The course is given as part of the CLIMBECO research school and is meant for 10-16 PhD students. The course is given in English.

3 Course contents (see schedule above)

4 Teaching and examination
Teaching is carried out during one week of lectures, exercises and seminars in Lund. The student is expected to actively participate in exercises and seminars, and to hand assignments and reports related to the various tasks in the schedule tasks. The examination will be based on these project reports and assignments. 2 days before the course start are dedicated to preparatory work and 3 days after the week in Lund are assigned to writing up exercises and assignments.

5 Grades
Grades are pass or fail.

6 Admission requirements
Participants must be registered as PhD students and it is preferred if applicants must have previously passed an introductory courses in remote sensing, e.g. one of NGEA03 (Remote Sensing for Landscape Studies), NGEA05, (GIS and Remote Sensing with focus on the Environment) or NGEN08 (Satellite Remote Sensing) or courses at similar level or having equivalent experience. The maximum number of students is sixteen. Minimum number of students is five. Depending on the number of applicants some flexibility in background skills is tolerable.

7 Literature
Scientific articles and book chapters, to be announced later.

8 Teacher and examination
Responsible teachers and examiners are Jonas Ardö, Lars Eklundh & Karin Hall, department of Physical Geography and Ecosystem Science, Lund University. Participation in all scheduled activities is mandatory.