

Geography 422
Advanced Seminar in Remote Sensing
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Introduction:

This course is designed to provide you with the opportunity to integrate your strong background in geography or other earth/biological sciences with remote sensing. The course is intended to be a capstone focusing on your work and integration of your previous knowledge. As such the expectation is that each of you will focus on projects that you have an interest in. The fact that you are registered in this course means that you have an interest in remote sensing.

We have a number of different datasets from different environments that could be made available to you to work on your project. Most of our current library is focused on airborne data from western Canada (Alberta and BC). If your interests lie elsewhere then we can see what we can accommodate.

Some examples of potential projects:

1. "Urban" forest - species identification UVic - 2 metre hyperspectral data
2. Ecological characterization - NEON: 3 datasets from California, acquired 2013
3. Wetlands mapping: relating vegetation structure to wetlands types - large number of examples from NE BC and northern Alberta (including Peace-Athabasca Delta)

Course Design:

The course will be a project - based course with the expectation that you execute a research project of your choosing, related for the remote sensing of various environments. The course is seminar-based and so much of the interaction will be student lead. We will have a number of presentations by guest speakers to broaden your outlook on the application of remote sensing data to addressing a variety of issues. You will be given the opportunity to develop a project that suits your interests, within the limits of available data. The progress of the projects will be monitored through a series of deliverables (see below). The data that you will have access to are, for the most part, new (that is you will be the first to work on them) and are collected from airborne multi sensor campaigns. Typically we will have LiDAR, hyperspectral data and orthophotography.

Times: **Lecture** Tuesdays 1430 -1620; **Lab**: Thursday 1130-1420
Location: **Lectures**: Clearihue D130; **Lab**: Turpin (SSM) A253

Evaluation:

Deliverables	Weighting	Date
Project definition	5% (O&W)	September 23
Annotated bibliography	10% (W)	September 30
Methodological overview	20% (O&W)	October 7 (W)
Progress update	5% (O&W)	October 28
Presentation of final project	25% (O)	November 18 and 25
Final report	35% (W)	December 2

O=oral; W=written

The grade breakdown follows the university convention:

F	D	C	C+	B-	B	B+	A-	A	A+
< 50%	50-59%	60-64%	65-69%	70-72%	73-76%	77-79%	80-84%	85-89%	90-100%

Tentative schedule (subject to change):

September 9 Introduction
September 16 Multisensor RS
September 23 Class Presentations: Project Definitions
September 30 Remote Sensing of Vegetation Health
October 7 : Class Presentations: Methodological overview
October 14 Class Presentations: Methodological overview
October 21 Wetlands mapping
October 28 Class Presentations: Progress report/update
November 4 Guest lecture
November 11 Reading Break
November 18 Class Presentations
November 25 Class Presentations