

GEOG 457 / 657: Advanced Remote Sensing - Winter 2022

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Lectures: 5-154, MF 12:30 – 13:20

Labs (8-125): Tuesday 16:00 – 17:50 Matt McLean email: matt.mclean@unbc.ca

COURSE OBJECTIVES

This technical project/ image-oriented course focuses on advanced procedures incorporating digital elevation data, object-oriented classification, and new millennium data sources such as ASTER, RADAR, MODIS, LiDAR and high-resolution imagery. Repeat imagery is used to assess local and global changes in land cover environments.

DATE	TOPICS	LABS
January		
Jan 5-7	Introduction	<i>No labs</i>
Jan 10-14	Landsat 8/9 / Sentinel 2A,B; Landsat-like programs	PCI Catalyst and Landsat/Sentinel
Jan 17-21	PCA / Hyperspectral; High Resolution imagery	PCA / Tassel Cap
Jan 24-28	DEMs (including LiDAR); <i>high res.demo talks</i>	DEMs and DEM change
February		
Jan 31-Feb 4	Low/Medium resolution; planetary RS	LiDAR
Feb 7-11	<i>MODIS demo talks</i> ; SAR-amplitude	RPAS (UAV) data
Feb 14-18	INSAR, <i>midterm (15%)</i>	SAR (RADAR)
Feb. 21-25	Reading Break – no lectures	Reading Break – No Labs
March / April		
Feb 28-Mar 4	OOC-segmentation; machine learning	OOC-segmentation
Mar 7 – 11	Cube / RPAS data; large datasets/areas	Machine Learning
Mar 14 – 18	Time series; Apps: env. monitoring	Google Earth Engine
Mar 21 – 25	Apps: emergency management; summary	Project
Mar 28-April 1	<i>Lecture exam (15%)</i> ; RPAS demo	Project
April 4-7	Project demos (April 4 - class)	Projects due April 8
April 7	Last day of classes	exam period: April 8-22 (no exam)

COURSE EVALUATION

- Lecture content: exams 30 % Class talks: 10% (2 x 5%) Labs: 40% Project 20%
 Class notes: <http://gis.unbc.ca>