



COURSE OUTLINE
Introduction to Remote Sensing

Lecture: DTB A104 14:30-15:20 Mondays and Wednesdays
Office Hours: Wednesdays 12:30-14:30 or by appointment
Office Location: DTBA122
Contact: randy@uvic.ca

We acknowledge and respect the lək'wəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

COURSE DESCRIPTION

The objective of this course will be to provide students with a conceptual and practical introduction to Remote Sensing (RS). We will explore air photos, remote sensing image processing and data formats in a digital environment, radiometric and geometric processing of satellite images, image enhancements, and image classification.

KEY THEMES: Remote sensing fundamentals, image processing and analysis, applications

REQUIRED TEXT(S)

None

RECOMMENDED TEXT(S)

1. Introductory Digital Image Processing. A Remote Sensing Perspective. 4th Edition. John R. Jensen.
 2. Computer Processing of Remotely-Sensed Images. 4th Edition. Paul M. Mather (available online: <http://voyager.library.uvic.ca/vwebv/holdingsInfo?bibId=3122540>)
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LEARNING OUTCOMES

Theoretical: foundations of remote sensing. Technical: state-of-the-art software, image processing, and information extraction procedures. Practical: remote sensing and geospatial data analysis skills, remote sensing as a science and resource management tool, technical writing, knowledge communication.

EVALUATION

Exams

- Midterm 25%
- Final 35%
- Lab Assignments 40%
- To obtain a passing grade in the course (at least a “D”), students are required to pass both components of the course.

GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
A+ A A-	9 8 7	90-100% 85-89% 80-84%	Exceptional, outstanding and excellent performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
B+ B B-	6 5 4	77-79% 73-76% 70-72%	Very good, good and solid performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
C+ C	3 2	65-69% 60-64%	Satisfactory, or minimally satisfactory. These grades indicate a satisfactory performance and knowledge of the subject matter.
D	1	50-59%	Marginal Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
F	0	0-49%	Unsatisfactory performance. Wrote final examination and completed course requirements; no supplemental.
N	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.

GEOGRAPHY DEPARTMENT INFO

- Geography Department website: uvic.ca/socialsciences/geography/
- Geography Department Chair: geogchair@uvic.ca
- Geography Undergraduate Advising: geogadvising@uvic.ca

BRIGHTSPACE

Lectures materials, assigned readings, and general course communications will be via Brightspace. You are required to come prepared for each lecture. This means you should have read and considered the assigned readings.

LABS

There are 6 lab assignments. The labs are an essential part of the course and you are expected to have basic computer skills such as file maintenance, word processing, and conducting spreadsheet operations (e.g. Microsoft Excel). Attendance is required. All labs will be held in the Geomatics Lab A251/253. Each lab will explore unique aspects of remote sensing. Analysis and presentation of data, as well as preparation of synthesis reports, are valuable skills that will be developed as part of lab assignments. Time outside of regularly scheduled labs will be required to complete assignments, so plan accordingly.

Lab Website

<http://labs.geog.uvic.ca/geog228/>

user: geog228

pw: meris

POLICY ON LATE ASSIGNMENTS

Penalty for assignments handed in late is 20% per day: the first 24-hour period is a 20% deduction from your grade total for the assignment. Additional 20% per day after that.

All lab assignments must be submitted to be allowed to sit the final examination. Failure to submit a lab assignment will result in a failing grade of incomplete (N).

ACADEMIC INTEGRITY

It is every student's responsibility to be aware of the university's policies on academic integrity, including policies on **cheating, plagiarism, unauthorized use of an editor, multiple submission, and aiding others to cheat.**

Policy on Academic Integrity: web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html

If you have any questions or doubts, talk to me, your course instructor. For more information, see uvic.ca/learningandteaching/cac/index.php.

First offence will result in a grade of 0 for the assignment. Subsequent offences will be formally reported to administration and may result in a fail for the course, and/or a note on your record.

ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability or health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible (uvic.ca/services/cal/). The CAL staff is available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

POSITIVITY AND SAFETY

The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.

SEXUALIZED VIOLENCE PREVENTION AND RESPONSE AT UVIC

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR; Sedgewick C119
 Phone: 250.721.8021
 Email: svpcoordinator@uvic.ca
 Web: uvic.ca/svp

RESOURCES FOR INTERNATIONAL STUDENTS

The University of Victoria offers a number of resources to support international students as they pursue their studies. UVic's [International Centre for Students](#) is the primary office supporting international students on campus at the university-wide level and provides various supportive program through the [UVic Global Community Initiative](#), including a Mentorship Program and Conversation Partner Program. For academic advising-related questions, students in the Geography Department are also encouraged to meet with the Geography Undergraduate Advisor (geogadvising@uvic.ca) as well as an academic advisor in the [Academic Advising Centre](#) early in their studies to help map out a plan to declare a major and complete university program requirements. Other resources include the [Centre for Academic Communication](#) and the [Math and Stats Assistance Centre](#). International students are also encouraged to contact the International Student Liaison in Geography (Prof. CindyAnn Rose-Redwood, cindyann@uvic.ca), who can assist in making connections with other international and domestic students in the Geography Department and share opportunities for getting involved in departmental activities more broadly.

COURSE EXPERIENCE SURVEY (CES)

I value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. The survey is accessed online and can be done on your laptop, tablet, or mobile device. I will remind you and provide you with more detailed information nearer the time but please be thinking about this important activity during the course.

WEEKLY CALENDAR

- Last day for adding courses that begin in the first term: Friday, September 22nd
- Last day for paying first term fees without penalty: Saturday, September 30th

WEEK	DATE	Lecture [Lab information]
1	Sept 6-8	Course Introduction [No labs]
2	Sept 11-15	Air photos
3	Sept 18-22	Remote sensing process
4	Sept 25-29	Radiometric correction [Lab 1 due]
5	Oct 2-6	University Closed (Oct. 2), Radiometric correction

6	Oct 9-13	University Closed (Oct. 9), Geometric correction [Lab 2 due]
7	Oct 16-20	Geometric correction, Enhancements [Lab 3 due]
8	Oct 23-27	Enhancements, Mid-term exam Oct. 25 [Lab 4 due]
9	Oct 30-Nov 3	Enhancements
10	Nov 6-10	Classification [Lab 5 due]
11	Nov 13-17	Reading Break [No Labs]
12	Nov 20-24	Classification
13	Nov 27-Dec 1	Classification, Future [No lab session – Lab 6 due]

DISCLAIMER

The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.

NOTE:

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Counselling Services - *Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.* uvic.ca/services/counselling/

Health Services - *University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.* uvic.ca/services/health/

Centre for Accessible Learning - *The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations* uvic.ca/services/cal/. *The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

Elders' Voices - *The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.* uvic.ca/services/indigenous/students/programming/elders/index.php