

GEOGRAPHY FINAL COURSE OUTLINE: FALL 2019

GEOGRAPHY 584 GFC HOURS (3-2)

Advanced Remote Sensing

Section	Days	Time	Location
LEC 01	Th	17:00 – 19:45	ES 342
LAB 01	Mo	09:00 – 10:50	ES 307

Instructor: Mallik Mahmud	Office: ES 430
Telephone: 403 210 8449	Email: msmahmud@ucalgary.ca

Please note: The emergency evacuation assembly point for all classes taught in Earth Sciences is the ICT Food Court.

Official Course Description

Advanced remote sensing topics and labs (e.g., Geographic Object Based Image Analysis (GEOBIA), LiDAR, Urban Heat Islands, microwave remote sensing, etc.). Students will develop a remote sensing project with potential to result in a commercial remote sensing product/service and formally present their ideas (in class) as if they were presenting to their business manager/supervisor.

Course Objectives

In collaboration with the teacher, students will be supported to explore their own remote sensing based ideas/applications. They will be encouraged to participate in scenarios from which they can identify and develop a remote sensing research opportunity that can result in the generation of a remote sensing based product, and/or service with real-world applications. Students will be guided to develop and present their ideas as if they were presenting to their business manager/supervisor.

Course Learning Outcomes

The Department of Geography is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes to which they contribute, and the expected level of achievement.

Course learning outcomes	PLO(s)*	Level(s)**
Perform 3 challenging remote sensing labs	2-8	2, 3
Explore theoretical foundations of remote sensing	1, 2, 4	1, 2, 3
Explore advanced topics in remote sensing	1, 2, 4	2, 3
Apply strategies for information extraction from imagery	3, 4, 5, 6	2, 3
Explore leading remote sensing literature	4, 5, 7, 8	2, 3
Develop project management skills	1, 2, 4, 5, 7, 8	1, 2
Participate in class presentations, evaluation and assessments	1, 2, 4, 5, 7, 8	2, 3
Practice public presentation skills	1, 2, 4, 5, 7, 8	2, 3
Lead seminar presentation on your own topic of interest	1, 2, 4, 5, 7, 8	2, 3
Participate in industry and research-based guest lectures	1, 5	2, 3
Write technical report using standard formats and citation standards	8, 8	2, 3

**PLOs = Program Learning Outcomes: 1 = reflect and communicate diverse human-environment perspectives, 2 = identify and explain human-environment processes, 3 = implement sampling, data collection, analyses and communication methods, 4 = analyze spatial and temporal aspects of human-environment systems, 5 = employ knowledge, arguments, and methodologies for solving human-environment problems, 6 = evaluate geospatial data*

and manipulate it to create cartographic products, 7 = communicate geographic concepts using oral, written, graphic, and cartographic modes, and 8 = demonstrate literacy skills.

****Levels:** 1 = Introductory, 2 = Intermediate, and 3 = Advanced.

Prerequisites

Prerequisites: 3 units from Geography 333, 484.

Basic remote sensing knowledge and computer skills are required.

Learning Resources

No single text book is required for this course. However, numerous remote sensing textbooks can be consulted, which are available in Geography collection room and TFDL. The internet will serve as an invaluable resource for information in this course; published peer-reviewed journal articles will form the bulk of the sources for topics.

Grading (Weighting)

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|---|--------|
| 1. Project proposal (2 - 3 pages) | = 5 % |
| 2. 3 lab assignments (10 % each) | = 30 % |
| 3. Student TOI presentation | = 25% |
| 4. Student TOI paper | = 30 % |
| 5. Participation in-class, review discussion etc. | = 10 % |

There is **no mid-term or final examination** for this course. It is not necessary to pass each course component in order to pass the course as a whole.

The only acceptable reasons for missing an examination or assignment in this class, as listed in the Deferral of Final Examinations section of the University of Calgary Calendar are illness, domestic affliction, or religious conviction. If you miss an assignment or examination, and you provide me with the appropriate documentation, you will have one opportunity to make arrangements for the missed work. Without appropriate documentation, you will receive a zero for that portion of your grade.

Grading System

96 – 100	A+	77 – 80	B	59 – 61	C-
90 – 95	A	71 – 76	B-	55 – 58	D+
86 – 89	A-	65 – 70	C+	50 – 54	D
81 – 85	B+	62 – 64	C	0 – 49	F

Supplementary Fees

No supplementary fees will be assessed.

For additional detailed course information posted by the instructor, visit the course Desire2Learn page online at <https://d2l.ucalgary.ca/d2l/home>.

SUPPLEMENTAL INFORMATION

Principles of Conduct

The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

Plagiarism, Cheating, and Student Misconduct

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: www.ucalgary.ca/pubs/calendar/current/k-5.html.

Instructor Intellectual Property

Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/policies/files/policies/Intellectual%20Property%20Policy.pdf>

Freedom of Information and Protection of Privacy

Freedom of Information and Protection of Privacy (FOIP) legislation in Alberta disallows the practice of having students retrieve assignments from a public place, such as outside an instructor's office, the department office, etc. Term assignments will be returned to students individually, during class or during the instructor's office hours; if students are unable to pick up their assignments from the instructor, they must provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

Human subjects

Students in the course are not expected to participate as subjects or researchers when research on human subjects may take place.

Internet and electronic communication device information

There are no restrictions on the use of laptops and tablets in class if they are used to take notes or find information relevant to the class, and if there is no disturbance or distraction of other students or the instructor. Phones must be turned off during class, unless you have previously identified yourself to the instructor as a health care or law enforcement professional.

Posting of Grades and Picking-up of Assignments

Graded assignments will be returned by the instructor or teaching assistant personally during scheduled lecture or laboratory periods, unless they are made available electronically through the course D2L webpage. Grades and assignments will not be available at the Department of Geography's main office.

Academic Accommodations

It is the student's responsibility to request academic accommodations, according to the university policies and procedures listed in the University Calendar.

The student accommodation policy can be found at: www.ucalgary.ca/access/accommodations/policy. Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

Students needing an accommodation based on a protected ground other than disability should communicate this need, preferably in writing to their instructor or the Department Head (email: david.goldblum@ucalgary.ca).

Documentation for Absences or Missed Course Assessments

Students who are absent from class assessments (tests, participation activities, or other assignments) should inform the instructor as soon as possible. Instructors may request that evidence in the form of documentation be provided. If the reason provided for the absence is acceptable, instructors may decide that any arrangements made can take forms other than make-up tests or assignments. For example, the weight of a missed grade may be added to another assignment or test. For information on possible forms of documentation, including statutory declarations, please see <https://www.ucalgary.ca/pubs/calendar/current/m-1.html>

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Act.

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness, and academic success and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support, or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy website (<http://www.ucalgary.ca/mentalhealth/>).

Contact Information for Student and Faculty Representation

- Student Union VP Academic 403-220-3911, suypaca@ucalgary.ca
- Students Union Representatives for the Faculty of Arts – 403-220-3913, arts1@su.ucalgary.ca, arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca
- Student Ombuds Office information can be found at: www.ucalgary.ca/ombuds/

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus, including the LRT station, parking lots, bus zones, and university residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your campus destination.