
COURSE OUTLINE

GIS ANALYSIS

Contact: ianoc@uvic.ca (emails will be responded to only from 9.00am until 1.00pm
Monday to Friday – if you have not heard back in 24 hours please email again)

Office Hours: See Brightspace, *or by appointment*

Class Meetings: Tuesdays and Wednesdays 10.30 am to 11:20 am
Location: COR B143

Labs: You must be registered in a Lab Section **that you attend**.

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

COURSE DESCRIPTION

This course focuses on analyses for mapping and modelling, developing, and using geographic data to answer spatial research questions, conducting basic statistics, spatial interpolations, and carrying-out multi-criteria modelling.

KEY THEMES

Geographic data acquisition, spatial statistics, spatial interpolation, multi-criteria modelling

REQUIRED TEXTS AND SOFTWARE

There is no required text for this course, however a reading and learning resources list will be included on Brightspace.

Laboratories will be conducted in the computer lab and focus on the use of the Open-Source software QGIS.

LEARNING OUTCOMES

1. Understand how GIS can be used to solve spatial problems (theoretically and practically) in Geography and other disciplines.
2. Build a foundation in using GIS: to create summary statistics for geographic data, conduct terrain analysis, calculate a least cost path, interpolate data, and conduct regression models with open-source software (QGIS and R).

3. Acquire a strong academic skills foundation - specifically research - to find the resources you need, to collect, analyze and interpret data, to present results effectively and communicate findings.
4. Be able to critically evaluate the capabilities and limitations of GIS analysis.

COURSE FORMAT

Please read the following carefully and keep in mind for the course:

- **Brightspace** is the main course hub where you will access materials (e.g. the course outline, readings, links), check your grades. This will serve as the main avenue of communication (<https://bright.uvic.ca/>). Please monitor the page on a regular basis for course announcements. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: helpdesk@uvic.ca, Tel: 250-721-7687
- This course will only be delivered **in person** on Tuesdays and Wednesdays 10.30 am to 11:20 am
- **Classes and laboratory periods will be in-person on campus. Exams will be in-person as well.**
- **Attending the lectures** at the designated times is expected. Real-time interaction with the instructor and student colleagues as well as the structure provided by having set times greatly enhances the learning experience. Lectures and Labs are **NOT** recorded.
- **Office Hours:** TBD *or email for appointment.*
- I welcome you to come and discuss your ideas and questions anytime during this course. Please use the office hour times posted to drop in or send me an email to make an appointment.

EVALUATION

2 Midterm Exams (9 th October, 19 th November)	20%
Laboratory Assignments x 6	50%
Final Exam (During Exam period)	30%

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.

GenAI not allowed (Except for one lab – see lab details for further information)

Please be advised that in this course you are not authorized to use any form of generative AI. In order to successfully complete course activities, generative AI is not required nor welcomed. Students should not make any use of generative AI tools such as ChatGPT, Grammarly, among others that use AI for content generation and editing. As the University of Victoria states on its Academic Integrity Policy "Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility."

Therefore, I expect you to comply with the course syllabus and I encourage you to enhance your academic experience in this course by refraining from use generative AI.

Lecture Topics Tentative Schedule

Week	Dates	Topic
1	Sept 2 nd – 6 th	Introduction
2	Sept 9 th – 13 th	Introductory concepts
3	Sept 16 th – 20 th	Introductory concepts
4	Sept 23 rd – 27 th	Spatial analysis building blocks
5	Oct 7 th – 11 th	Spatial analysis building blocks
6	Oct 14 th – 18 th	Multi-criteria modeling
7	Oct 21 st – 25 th	Multi-criteria modeling
8	Oct 28 th – Nov 1 st	Interpolation
9	Nov 4 th – Nov 8 th	Interpolation
10	Nov 11 th – Nov 15 th	Reading Break
11	Nov 18 th – Nov 22 nd	Terrain analysis
12	Nov 25 th – Nov 29 th	Special topics
13	Dec 2 nd – 6 th	Catch-up and review

Laboratory assignments are due before the start of your scheduled lab time.

Week	Dates	Lab	Due Dates
1	Sept 2 nd to Sept 6 th	No Lab	
2	Sept 9 th to Sept 13 th	Lab 1 Map Making 5%	
3	Sept 16 th to Sept 20 th	Lab 2 Data Collection 5%	Lab 1
4	Sept 23 rd to Sept 27 th	Work period	
5	Sept 30 th to Oct 4 th	Lab 3 Least Cost Path 10%	Lab 2
6	Oct 7 th to Oct 11 th	Work period	
7	Oct 14 th to Oct 18 th	Lab 4 Interpolation 10%	Lab 3
8	Oct 21 st to Oct 25 th	Work period	
9	Oct 28 th to Nov 1 st	Lab 5 Summary Statistics 10%	Lab 4
10	Nov 4 th to Nov 8 th	Work period	
11	Nov 11 th to Nov 15 th	Reading Break	
12	Nov 18 th to Nov 22 nd	Lab 6 Regression 10%	Lab 5
13	Nov 25 th to Nov 29 th	Work period	
14	Dec 2 nd to Dec 6 th		Lab 6

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.

POLICY ON LATE ASSIGNMENTS

Students must complete all evaluation components to obtain credit. Failure to complete an evaluation component without permission from the instructor, may result in an 'N' grade, which equals a Grade Point Value of 0.

Late assignments will be penalized 20% for each 24 hour time period (including weekends and holidays). Exceptions to the late penalty, will only be granted for documented medical or compassionate reasons. Extension requests must be made within five working days of the due date using the UVic class request for extension form. Extension requests within 48hrs of the due date may be requested from your laboratory instructor. Only the course instructor can grant extensions past 48hrs.

Conflicts with work, holidays or travel plans are not considered an acceptable reason to apply for a deferred assignment or project extension.

Unless otherwise stated students are expected to complete assignments independently.

POLICY ON ATTENDANCE

Attendance is expected for lectures and lab assignment time. Recordings of lecture material or laboratory introductions will not be provided unless the University reinstates online learning. High level of student cooperation and participation, involving asking and answering questions is expected. Students are also expected to be punctual for course meetings. Cell phones must be turned off or silenced during lectures and labs and ONLY be used during field activities if pertinent to do so.

As an Instructor, I can refuse a student admission to a lecture, laboratory, learning activity or exam because of lateness, misconduct, inattention, or failure to meet the responsibilities of the course. Students who neglect their academic work may be assigned a final grade of 'N' (which equals a Grade Point Value of 0) or debarred from final examinations. Please refer to the UVic academic calendar in the section on student academic conduct for further information.

Advice: Some students have in the past found that some of the lab assignments can be time-consuming and challenging. We are here to help with this – Please make sure you schedule your time effectively. The Labs are two hours. Please plan to be there for the entire lab time. The lab materials are designed to be both **supplemental** and **complementary** to the lectures. Slides are **not** designed to replace attendance in class or lab. The labs for this course are not meant to be impossible; rather, they introduce you to concepts, such as how to find information yourself. This is an important skill in the job market and in today's online world.

In general, there is no way any course can provide all you need within the course. To do so would be to rob students of the chance to grow into the necessary critical thinking skills. You must learn how to search these things out and learn how to assess what is useful for the task at hand. With that in mind, if any task seems like it is taking an inordinate amount of time or just isn't converging in some way, please stop and reach out to your TA or to the instructor and verify you are on the right track.

Exam Format: The questions for the midterm exams and final exam will be based on lectures, labs, posted learning resources and class discussion. The final exam is comprehensive. Formats include a combination of short-answer, calculations, and multiple-choice questions. **Electronic devices for use during exams are limited to non-graphing scientific calculators, unless otherwise expressly permitted by the course instructor.**

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.

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

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