



COURSE OUTLINE

Course Title: *GIS Analysis*

Instructor: Ji Won Suh (jiwonsuh@uvic.ca)

Office: DTB B306

Lectures: COR A125

- **Tuesday: 10:30 - 11:20 AM**
- **Wednesday: 10:30 - 11:20 AM**

Office Hours:

- **Tuesday 11:30 AM - 12:30 PM / Wednesday 11:30 AM - 12:30 PM**
- **or by appointment**

Lab Instructor:

- **Dr. Jessica Neal** (jlaura@uvic.ca)
- **Ben Paquette-Struger** (baps@uvic.ca)
- **Megan Fennerty** (mfennerty@uvic.ca)

Lab location: DTB A251

Schedule:

- **B01 – Tuesday: 12:30 - 2:20 PM**
- **B02 – Wednesday: 2:30 - 4:20 PM**
- **B03 – Friday: 10:30 AM - 12:20 PM**

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

This course focuses on mapping and modeling analyses, emphasizing the development and use of geographic data to address spatial research questions. Students will learn to perform basic statistical analyses, apply spatial interpolation techniques, and conduct multi-criteria modeling to support spatial decision-making.

KEY THEMES

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

REQUIRED TEXTS AND SOFTWARE

There is no required textbook 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 Geographic Information Systems (GIS) can be applied to solve spatial problems both theoretically and practically across Geography and related disciplines.
2. Develop a strong foundation in using GIS to summarize geographic data, perform terrain analysis, calculate least-cost paths, interpolate spatial data, and conduct regression modeling using open-source software such as QGIS and R.
3. Strengthen academic and research skills, including locating relevant resources, collecting, analyzing, and interpreting data, and effectively presenting and communicating results.
4. Critically evaluate the strengths and limitations of GIS-based analyses and methodologies.

EVALUATION

Lab Assignments (50% of total grade)

There is a total of **6 lab** assignments (lab 1: 5%, lab 2: 5%, lab 3: 10%, lab 4: 10%, lab 5: 10%, lab 6: 10%). Attendance is required. Each lab will explore unique aspects of GIS. 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. All assignments will be submitted through **Brightspace**. Assignments turned in late will be accepted, but will receive a grade penalty. Late activities will be graded in accordance with the Late Policy.

LAB ACCESS

The Geomatics Teaching Labs (DTB A249/A251/A253) are open daily from 08:30 to 16:30. Access to the Laboratory is restricted after 16:30 for security purposes. You are encouraged to purchase a key fob, which will enable you to gain access to that facility after hours. The cost of a key fob is \$10.00 and you can keep it in case you take another course that uses the lab facilities. Contact **Rick Sykes** in DTB A250 or email to rsykes@uvic.ca.

Mid-term Exam (20% of total grade)

The mid-term exam consists of choice questions, fill-in-the-blank questions, and short-answer questions (within 1 hour). This is a closed-book exam. This exam can only be taken within the classroom.

Final Exam (30% of total grade)

The final exam will follow the same format as the midterm exam and will be within 2 hours in length. It will take place according to the official final exam schedule during the university's final exam period.

To obtain a passing grade in the course (at least a “D”), students are required to pass both components (lecture and lab) 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

Brightspace, the university's Learning Management System (LMS), will serve as the primary platform for course communication and materials:

<https://www.uvic.ca/systems/services/learningteaching/brightspace/index.php>.

Please check the course page regularly for announcements and updates.

POLICY ON LATE ASSIGNMENTS

Students must complete **all evaluation components** to receive credit for this course. Failure to complete any component without prior permission from the instructor will result in an '**N**' grade

(equivalent to a Grade Point Value of 0).

Late submissions for assignments or project work will be penalized **20% per day**, including weekends. Exceptions will only be granted for **medical or compassionate reasons** and must be requested within **five working days** if possible. Only the course instructor may approve such exceptions (<https://bright.uvic.ca/d2l/le/lessons/461266/topics/3611072>).

Conflicts with **work schedules, holidays, or travel plans** are **not** acceptable grounds for deferred assignments or extensions.

Unless otherwise specified, **all assignments must be completed independently**.

POLICY ON ATTENDANCE

Attendance is expected for lectures and lab assignment time. Recordings of lecture material or laboratory introductions will not be provided.

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.

USE OF AI

Please note that the use of generative AI tools (e.g., ChatGPT, Claude, Grammarly, or any similar AI-based content generation or editing software) is not permitted in this course unless explicitly authorized during lab sessions.

As stated in the University of Victoria's Academic Integrity Policy, "Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility." In keeping with these principles, students are expected to adhere to the course syllabus and uphold the highest standards of academic integrity.

You are strongly encouraged to develop your own ideas and skills by refraining from the use of generative AI tools outside the specific contexts approved in lab activities.

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 RESOURCE OFFICE (SVRO)

If you have been directly or indirectly impacted by sexualized violence, reach out to the SVRO for information, advice, resolution options (restorative and disciplinary) as well as support options and referrals. The SVRO is both survivor-centred and trauma-informed in their approach.

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

EQUITY AND HUMAN RIGHTS (EQHR)

UVic Equity and Human Rights is a resource for students, staff and faculty who have experienced discrimination and harassment and are looking for informal and formal resolution options as well as advice, coaching and/or education. We are available for confidential consultations so that you can ask questions and learn your options.

- Where: Sedgewick C Wing
- Email: eqhr01@uvic.ca
- Web: www.uvic.ca/equity

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

Week	Date & Topic		Lab
W1		Sept. 9	No labs
		<ul style="list-style-type: none">Course introduction	
W2	Sept. 15	Sept. 16	Lab 1. Map Making
	<ul style="list-style-type: none">Basics of GIS		
W3	Sept. 22	Sept. 23	Lab 2. Data Collection (Lab 1 DUE)
	<ul style="list-style-type: none">Basics of GIS		
Sept. 22 Last day for 100% reduction of tuition fees for first term Sept. 25 Last day for adding courses that begin in the first term			
W4	Sept. 29	Sept. 30	No labs
	<ul style="list-style-type: none">Spatial analysis overview	National Day for Truth and Reconciliation (No class)	
Sept. 30 Last day for paying first term fees without penalty			
W5	Oct. 6	Oct. 7	Lab 3. Least Coast Path (Lab 2 DUE)
	<ul style="list-style-type: none">Spatial autocorrelation	<ul style="list-style-type: none">Least-cost path	
W6	Oct. 13	Oct. 14	Work period
	<ul style="list-style-type: none">Least-cost path	Midterm Exam	
Oct. 13 Last day for 50% reduction of tuition fees for standard courses			
W7	Oct. 20	Oct. 21	Lab 4. Interpolation (Lab 3 DUE)
	<ul style="list-style-type: none">Interpolation		
W8	Oct. 27	Oct. 28	Work period
	<ul style="list-style-type: none">Interpolation		
Oct. 31 Last day for withdrawing from first term courses without penalty of failure			
W9	Nov. 3	Nov. 4	Lab 5. Habitat modelling (Lab 4 DUE)
	<ul style="list-style-type: none">Multi-criteria model		
W10	Nov. 10	Nov. 11	No labs
	<ul style="list-style-type: none">Reading Break (No class)		
W11	Nov. 17	Nov. 18	Work period
	<ul style="list-style-type: none">Multi-criteria model		
W12	Nov. 24	Nov. 25	Lab 6. Regression (Lab 5 DUE)
	<ul style="list-style-type: none">Terrain modeling		
W13	Dec. 1	Dec. 2	(Lab 6 DUE)
	<ul style="list-style-type: none">Terrain modeling	<ul style="list-style-type: none">Catch up and review	

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