



COURSE OUTLINE  
GIS Analysis



*GIS data collection in action! Geography students surveying Schooner Dune System (2019) in Pacific Rim National Park Reserve. Multiple methods were used to create terrain surface models which were further used to detect change to this important ecosystem after winter storm season.*

I want to acknowledge and respect the ɫə́kw̓əŋən 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 analysis 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.

<b>Class Meetings:</b>	Tuesdays and Wednesdays 1:30 to 2:20 pm			
<b>Classroom:</b>	COR B129			
<b>Lab information:</b>	B01	Wednesday	8:30 am – 10:20 pm	DTB A251
	B02	Thursday	2:30 pm – 4:20 pm	DTB A251
	B03	Friday	10:30 am – 12:20 pm	DTB A251

At this time, classes and laboratory periods will be in-person on campus. All exams will be in-person as well. We will be following provincial health and safety guidelines and adaptations to course learning environments may change over the term.

## 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 and interpolate data with open-source software (Q-GIS 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 in a report format.
4. Be able to critically evaluate the capabilities and limitations of GIS analysis.

## REQUIRED TEXTS

There is no required textbook for this class, however online readings or other media links will be posted on Brightspace. These are required and will be included on the midterm and final exam.

## INSTRUCTOR INFORMATION

**Dr. Shannon Fargey**, Department of Geography, DTB B308, [fargey@uvic.ca](mailto:fargey@uvic.ca) or 250-721-7342.

When emailing me please include 'GEOG 328 - your name – Brief Subject' in the subject line. This helps me sort through emails and makes it easier to respond to your message. *It may take up to 48-hrs for a response. Please be patient. If you email after 12:00 pm on a Friday, do not expect a response until Monday.*

**Profile:** I am an Assistant Teaching Professor in the Geography Department. My role in the Department is primarily on program delivery, supporting student learning and discovery in Physical Geography, and Geomatics. I am passionate about hydrometeorological topics and field-based learning. To learn more about me, and stay updated with exciting new studies in our field, please visit my website [shannonfargey.com](http://shannonfargey.com) and follow me on Twitter @fargetmenot

**Office Hours:** Tuesday 2:30-3:30 pm and Friday 9:00-11:00 am

I welcome you to come and discuss your ideas and questions anytime during this course, however because of the pandemic my 'normal' open-door policy is now a virtual one. Please use the office hour times above to drop in online or send me an email to make an appointment. If you cannot come in person, we can meet via zoom, however you need to set up an appointment in advance. Zoom link on Brightspace.

## EVALUATION

Laboratory Assignments x 6	50%
Midterm Exams (2) Feb 14 and March 27	20% (10% each)
Final Exam (Final Exam period – face-to-face)	30%

Exams will be a mix of multiple choice and written questions. All lecture material and additional resources provided via Brightspace will be included on the exams. The final exam will be comprehensive but will be more heavily weighted on the material covered after the midterm. If you miss the midterm exam for an approved reason, the weight of the midterm will be added to the final exam. No make-up exam is offered.

Additional information about the evaluation components can be found on Brightspace.

## GEOGRAPHY DEPARTMENT INFORMATION

Geography Department website: <http://geog.uvic.ca>  
 Undergraduate Advisor: Dr. Cam Owens [geogadvisor@uvic.ca](mailto:geogadvisor@uvic.ca)  
 Department Chair: Dr. David Atkinson [geogchair@uvic.ca](mailto:geogchair@uvic.ca)

## BRIGHTSPACE

Brightspace learning management systems (LMS) will serve as the main avenue of communication (<https://www.uvic.ca/systems/services/learningteaching/brightspace/index.php>). 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](mailto:helpdesk@uvic.ca), Tel: 250-721-7687

You will find the course and lab schedule on Brightspace.

## GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
<b>A+</b> <b>A</b> <b>A-</b>	9 8 7	90-100% 85-89% 80-84%	<b>Exceptional, outstanding and excellent</b> 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> <b>B</b> <b>B-</b>	6 5 4	77-79% 73-76% 70-72%	<b>Very good, good and solid</b> 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.
<b>C+</b> <b>C</b>	3 2	65-69% 60-64%	<b>Satisfactory, or minimally satisfactory.</b> These grades indicate a satisfactory performance and knowledge of the subject matter.
<b>D</b>	1	50-59%	<b>Marginal</b> Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
<b>F</b>	0	0-49%	<b>Unsatisfactory</b> performance. Wrote final examination and completed course requirements; no supplemental.
<b>N</b>	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.

## **IMPORTANT COURSE POLICIES**

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.

A high level of student cooperation and participation, involving asking and answering questions is expected. Students are also expected to be punctual for course meetings.

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

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.

Late assignments and/or project work will be penalized 20% per day (including weekends). Exceptions will only be granted for medical or compassionate reasons. Please contact the instructor within five working days if possible. Only the course instructor can grant exceptions.

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.

## **PLAGIARISM**

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](https://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html)

Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Victoria. Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects. Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations, for referencing your sources, or unauthorized use of an editor, please familiarize yourself with the University policy on academic integrity found in the Undergraduate Calendar at the following website - <https://www.uvic.ca/students/academics/academic-integrity/index.php#ipn-policies-consequences>.

Please contact me if you have any questions.

Infractions will be dealt with in accordance with University policy. Commonly, the penalty for any form of cheating/plagiarism is a grade of F on the tests or laboratory assignments, or a final grade of F in the course. However, depending on the severity of the case other penalties may include a record on the student's transcript or expulsion.

## **ACCESSIBILITY**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <http://www.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.

## **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. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavor to be respectful in our language, our examples, and the manner in which we conduct our discussions and group work. If you have any concerns about the climate of the class, please contact me.

## **COURSE EXPERIENCE SURVEY (CES)**

We value your feedback on this course. Towards the end of the course, 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 via MyPage 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.

## **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](http://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: [sypcoordinator@uvic.ca](mailto:sypcoordinator@uvic.ca)

Web: [uvic.ca/svp](http://uvic.ca/svp)

## University of Victoria Important Dates

Jan 25– Last day for adding courses that begin in the first term.

Feb 28 - Last day for withdrawing from first term courses without penalty of failure

Additional important dates can be accessed through the link below.

<https://www.uvic.ca/calendar/dates/>

### DISCLAIMER

The presented schedules, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances

Week	Dates	Lecture Topics	Lab	Due Dates
1	Jan 9 to Jan 13	Course Overview	No Lab	
2	Jan 16 to Jan 20	Introductory Concepts	Lab 0 Map Making 1%	
3	Jan 23 to Jan 27	Spatial Connections	Lab 1 Summary Statistics 10%	Lab 0
4	Jan 30 to Feb 3	Data Collection	Work period	
5	Feb 6 to Feb 10 <sup>t</sup>	Least Cost Path	Lab 2 Data Collection 9%	Lab 1
6	Feb 13 to Feb 17	<b>Feb 14 – Midterm 1</b> Feb 15 – No Lecture	Lab 3 Least Cost Path 10%	Lab 2
7	<b>Feb 20 to Feb 24</b>		<b>Reading break</b>	
8	Feb 27 to Mar 3	Modelling Continued	Work period	
9	Mar 6 to Mar 10	Interpolation	Lab 4 Interpolation 10%	Lab 3
10	Mar 13 to Mar 17	Interpolation	Work period	
11	Mar 20 <sup>t</sup> to Mar 24	Spatial Regression	Lab 5 Regression 10%	Lab 4
12	Mar 27 to Mar 31	<b>March 27 – Midterm 2</b> Hydrological Modelling	Work period	
13	Apr 3 to Apr 7	Hydrological Modelling and Review	No Lab B01 & B02 – Due before scheduled lab time B03 - Due April 6 11:59 pm	Lab 5