



COURSE OUTLINE

GIS Applications and Tools

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 12:30 pm to 1:20 pm
Location: COR A125

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

COURSE OBJECTIVES

- introduces the concepts and applications of geodatabases.
- consolidate understanding of fundamentals of geographic information.
- introduces concepts of Georeferencing;
- introduces Model Builder and Automation.
- consolidates and develops Geoprocessing tools, and custom tool development.
- introduces concepts and techniques of Online Mapping.

LEARNING OUTCOMES

- ability to employ GIS to solve wide ranging problems.
- ability to use selected components of advanced GIS modeling applications
- ability to customize online mapping products (ArcGIS Online)
- ability to use model builder, geoprocessing tools, and scripts
- skills and experience of a leading GIS platform (ArcPro)
- integration of diverse datasets and data models
- development of presentation and report writing skills.

This semester you will work with Story Map website development, georeferencing, geodatabases, automation in model builder, and data collection with Field Maps. You will upload the outputs from your assignments onto your Story Map website throughout the course. There is final project component where you will build your own GIS tutorial to support a research project, or community partner project.

PRE-REQUISITES

Geography 222, Geography 228, and Geography 226

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 Tuesday and Wednesdays from 12:30pm-1:20pm
- **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.

EDUCATIONAL TECHNOLOGY : ESRI : ArcPRO ESRI and ArcGIS Online

- I use a variety of educational technology in this course including internet-based technologies or web-based applications, cloud services and social media. The use of technology is part of your engagement at the University. Some of these learning tools may collect, use and/or disclose your personal information and store or access that information outside of Canada. UVic cannot require students to disclose personal information to technologies or organizations which may store information on servers located outside of Canada because disclosure of personal information to vendors, systems or services storing or accessing that personal information outside of Canada is restricted by section 30.1 of BC's Freedom of Information and Protection of Privacy Act (FIPPA). Personal information is information about an identifiable individual; for example, your name or your email address.
- The following educational technologies, which stores or accesses your personal information outside Canada, are required for this course: ESRI : ArcPRO ESRI : ArcGIS Online , and other ESRI products linked to same ID. <https://www.arcgis.com/home/index.html>]. I will make you aware if this list changes. I use these technologies to enhance your educational experience at UVic. The personal information is required by the service. The privacy policy and the terms of use are available at: <https://www.esri.com/en-us/privacy/overview>. I encourage you to read these documents.
- For the use of ESRI : ArcPRO and ArcGIS Online, we generate a username that will be an alias – but in order to generate and manage your password, your email address is required.
- If you are not comfortable with your personal information being stored outside of Canada, please speak to me within the first week of class about using an alternative (such as using an alias or nickname).
- Otherwise, by continuing in this course, you agree to the use of the educational technology in the course and the storage of personal information outside of Canada.

REQUIRED TEXT

There is no required textbook for this course, however weekly readings and online learning resources will be provided on Brightspace throughout the course.

EVALUATION

Midterm #1 Exam (In Class February 26 th)	20%
Final Exam (In Class April 1st)	15%
Laboratory Assignments x 6	30%
Final Project (DUE 4.00PM April 4th)	35%

Tentative Lab Information

Week	Dates	Lab	Due Date
1	January 6 th to 10 th	No Lab	
2	January 13 th to 17 th	Lab 1 Story Maps 5%	
3	January 20 th to 24 th	Lab 2 Geo-referencing 5%	Lab 1
4	January 27 th to 31 st	Lab 3 Geodatabases 5%	Lab 2
5	February 3 rd to 7 th	Work period	
6	February 10 th to 14 th	Lab 4 Automation 5%	Lab 3
7	February 17 th to 21 st	Reading Break	
8	February 24 th to 28 th	Lab 5 Python 5%	Lab 4
9	March 3 rd to 7 th	Lab 6 Field Maps 5%	Lab 5
10	March 10 th to 14 th	Tutorial building 35%	Lab 6
11	March 17 th to 21 st	Work period	
12	March 24 th to 28 th	Work period	
13	March 31 st to April 4 th	Work period	Project Due

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' contact hours are two hours but please expect time spent outside of lab time to complete. Please plan to be there for the entire lab time. The labs 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.

IMPORTANT : 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.

No audio or video recordings are permitted unless approved in writing (in advance) by the course instructor.

Exam Format: The questions for the exams will be based on lectures, labs, posted learning resources and class discussion. Formats may 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.**

IMPORTANT COURSE POLICIES

A high level of student cooperation and participation, involving asking and answering questions is expected.

Students are expected to attend all lectures, take notes and be punctual for class.

Cell phones and portable music players must be **turned off or silenced** during lectures and labs.

To earn credit, students must complete all components. Failure to submit a lab will result in a zero for that lab. Additionally, all examinations must be completed to receive credit.

Students will not be permitted to write make-up tests except for medical or compassionate reasons. Please inform the instructor of your situation promptly. Any make-up test or examination may not follow the same format as the in-class one.

Lab assignments are due at the beginning of your lab section; thereafter late penalties will be applied.

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.

Details regarding your labs and their marks are managed by the course Lab Instructors. Please discuss any issues or questions on labs with your Lab Instructor first. Any discrepancy with lab grades must be reported to your Lab Instructor, then the Course Instructor within **seven days** of receiving the marked assignment.

Please attend only the laboratory section for which you are registered. If you must miss a lab for exceptional circumstances, please plan with your TA in advance to attend another section. This however does not change the due date of your lab assignment.

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

Unless otherwise stated students are expected to complete assignments **independently**.

NOTES

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.

Academic Integrity

Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Victoria. *The responsibility of the institution:* 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. *The responsibility of the student:* 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 or for referencing your sources, ask your instructor.

GenAI is partially allowed

In this course, you are limitedly authorized to make the use of generative AI such as ChatGPT. **You will be specifically directed when you are allowed to use this.** In order to not violate academic integrity, you must cite ChatGPT or any other tool properly using one of the following styles: APA style, Chicago or any other style

accepted by instructor]. Additionally, you must add as an appendix all the prompts and questions used within the generative AI to create content as an appendix. For **all the other activities** in this course, please refrain from using any generative AI. Please note that you can opt for not using generative AI at all to successfully complete all the courses requirements.

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.

Please familiarize yourself with the University policy on academic integrity found in the Undergraduate Calendar at the following website. Please contact me if you have any questions. web.uvic.ca/calendar2019-09/undergrad/info/regulations/academic-integrity.html

ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a 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 (<https://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. **Please note:** You are under no obligation to disclose.

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 endeavour 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.

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

COURSE EXPERIENCE SURVEY (CES)

We 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 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.

COPYRIGHT NOTICE

All course content and materials are made available by instructors for educational purposes and for the exclusive use of students registered in their class. The material is protected under copyright law, even if not marked with a ©. **Any further use or distribution of materials to others requires the written permission of the instructor, [except under fair dealing or another exception in the Copyright Act](#).** Violations may result in disciplinary action under the [Resolution of Non-Academic Misconduct Allegations policy \(AC1300\)](#).

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.