



COURSE OUTLINE
GIS ANALYSIS

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.

| | | | | |
|-------------------------|--|-----------|-----------------|----------|
| Class Meetings: | Tuesdays and Wednesdays 11:30 am to 12:20 pm | | | |
| Classroom: | ELL 060 | | | |
| Lab information: | B01 | Tuesday | 12:30 – 2:20 pm | DTB A251 |
| | B02 | Wednesday | 3:30 – 5:20 pm | DTB A251 |
| | B03 | Thursday | 8:30 – 10:20 am | DTB A251 |

INSTRUCTOR INFORMATION

Dr. Shannon Fargey, Department of Geography, **DTB B308**, 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.

Office Hours: Wednesday 1:00 to 2:00 pm or *by appointment*.

I welcome you to come and discuss your ideas and questions at times other than office hours, I have an open-door policy.

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. To learn more about me, please visit my website shannonfargey.com and follow me on Twitter @fargetmenot

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 AND LEARNING RESOURCES

Many of the assigned readings for this course will come from a free online e-resource entitled, Geospatial Analysis -6th Edition, 2018 by: de Smith, Goodchild, Longley (<http://www.spatialanalysisonline.com/HTML/index.html>). In addition, a list of supplemental readings and learning materials will be posted on CourseSpaces.

If you are interested, the recommended print textbook for this course is below. You may be able to find a used copy in the Bookstore or Student Union. Chang, K. T., Introduction to Geographic Information Systems., New York: McGraw-Hill

EVALUATION

| | |
|---------------------------------------|----------------|
| Laboratory Assignments x 6 | 50% |
| Midterm Exams x 2 | 20% (10% each) |
| Final Exam (during Final Exam period) | 30% |

Exam Format: The questions for the midterm exam and final exam will be based on lectures, course learning resources and in-class discussion. The midterm tests will only cover the topics discussed immediately preceding it. The final exam is comprehensive, but will be weighted more heavily on material not previously tested on. Format includes a combination of multiple-choice and short-answer questions. Examples will be provided in class.

COURSE COMMUNICATION

CourseSpaces learning management systems (LMS) will serve as the main avenue of communication in this course (<http://coursespaces.uvic.ca>). This is where I will put important resources that I think will help you along including course information, topic handouts, important dates, announcements, lab materials, and TA information (email addresses and office hours). Please go here first and visit often. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: helpdesk@uvic.ca, Tel: 250-721-7687

GEOGRAPHY DEPARTMENT INFORMATION

Geography Department website: uvic.ca/socialsciences/geography/
Undergraduate Advising: geogadvising@uvic.ca
Department Chair: Dr. Johannes Feddema geogchair@uvic.ca

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. |

IMPORTANT COURSE POLICIES

Students are expected to attend all lectures and labs, take notes and be punctual. A high level of student cooperation and participation, involving asking and answering questions is expected.

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

Topic handouts based on lecture presentations will be provided before the beginning of class meetings on CourseSpaces. These handouts will be removed 7 days after the posting date. Students are responsible for downloading/saving and completing notes packages. *If you miss any material, make arrangements to get handouts from a fellow student, not from the instructor.*

Late assignments will be penalized 20% per day (including weekends and holidays). Exceptions will only be granted for documented medical or compassionate reasons. Please inform the instructor of your situation promptly (within 1-week). You may be required to provide written proof from a medical practitioner. *Only the course instructor can grant exceptions.*

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

inform the instructor of your situation promptly (within 1-week). You may be required to provide written proof from a medical practitioner. *Only the course instructor can grant exceptions.*

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.

Cell phones must be turned off or silenced during lectures and labs and ONLY be used during field activities if pertinent to do so.

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

Please attend only the laboratory section for which you are registered. If you must miss a lab for exceptional circumstances, please make arrangements with your TA and Instructor in advance to attend another section. In this situation, you may be asked to attend a specific lab section because of space requirements and this may result in you missing content from other classes. This however does not change the due date of your lab assignment.

Details regarding your labs and their marks are managed by the course TAs. Please discuss any issues or questions on labs with your TA first and then come to see me if you would like further clarification.

Unless otherwise stated students are expected to complete assignments independently.

PLAGIARISM

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, 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 web.uvic.ca/calendar2019-09/undergrad/info/regulations/academic-integrity.html

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 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 <https://www.uvic.ca/services/cal/>.

The RCSD 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. 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.

FINAL THOUGHTS

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

TENTATIVE LECTURE SCHEDULE (*dates and topics may change*)

| Week | Dates | Topic |
|------|-----------------------|---|
| 1 | Sept 4 | No class |
| 2 | Sept 10, 11 | Topic 1, Topic 2 |
| 3 | Sept 18, 19 | Topic 2 continued |
| 4 | Sept 24, 25 | Topic 2 and Topic 3 |
| 5 | Oct 1, 2 | Topic 3 continued |
| 6 | Oct 8, 9 | Oct 8 Midterm Exam 1 (<i>Topics 1 and 2</i>), No class Oct 9 |
| 7 | Oct 15, 16 | Topic 4 |
| 8 | Oct 22, 23 | Topic 4 |
| 9 | Oct 29, 30 | Topic 5 |
| 10 | Nov 5, 6 | Topic 5, Nov 6 Midterm 2 (<i>Topics 3 and 4</i>) |
| 11 | Nov 12, 13 | <i>Reading Break – no classes</i> |
| 12 | Nov 19, 20 | Topic 6 |
| 13 | Nov 26, 27 | Topic 6 |
| 14 | Dec 3, 4 ¹ | Dec 3 - <i>Open office hours (no class)</i> , No class Dec 4 |

¹*National Day of Remembrance and Action on Violence Against Women. Classes and exams cancelled from 11:30 am - 12:30 pm.*

Topic 1: Introductory Concepts and Review

Topic 2: Spatial Analysis Building Blocks

Topic 3: Least-cost path

Topic 4: Interpolation

Topic 5: Regression

Topic 6: Special Topics in Research³

³*Topic 6 is largely contributed by special guest presenters (see CourseSpaces for Schedule). Guest presenter content is considered testable material on exams.*

University of Victoria Important Dates

Sept 20 – Last day for adding courses that begin in the first term.

Oct 30 - Last day for withdrawing from first term courses without penalty of failure

Additional important dates can be accessed through the link below.

<https://web.uvic.ca/calendar2019-09/general/dates.html>

LAB INFORMATION

The laboratory component of this course is supported by Dr. Jessica Fitterer (Senior Laboratory Instructor - GIS) and Teaching Assistants (TAs). You can find lab supporting material and lab assignments on the course website below.

LAB MANUAL ACCESS

<http://labs.geog.uvic.ca/geog328/>
username: geog328 password: gis328

LAB ACCESS POLICY

The lab is open Monday through Friday from 8:30 am to 4:30 pm. A schedule of lab availability schedule is posted outside the door. For evenings and weekends and after-hours a key can be signed out from Rick Sykes.

You will have space on our servers to complete assignments – only materials relating to GEOG 328 can be stored – no personal or private material allowed.

| Week | Dates | Laboratory | Due |
|------|---------------------|--------------------------------|-------|
| 1 | Sept. 2 – Sept. 6 | No Lab | |
| 2 | Sept. 9 – Sept. 13 | Lab 0 (1%) | Lab 0 |
| 3 | Sept. 16 – Sept. 20 | Lab 1 Summary Statistics (10%) | |
| 4 | Sept. 23 – Sept. 27 | Lab 1 | |
| 5 | Sept. 30 – Oct. 4 | Lab 2 Data Collection (9%) | Lab 1 |
| 6 | Oct. 7 – Oct. 11 | Lab 3 Least Cost Path (10%) | Lab 2 |
| 7 | Oct. 14 – Oct. 18 | Lab 3 | |
| 8 | Oct. 21 – Oct. 25 | Lab 4 Interpolation (10%) | Lab 3 |
| 9 | Oct. 28 – Nov. 1 | Lab 4 | |
| 10 | Nov. 4 – Nov. 8 | Lab 5 Regression (10%) | Lab 4 |
| 11 | Nov. 11 – Nov. 15 | Reading Break | |
| 12 | Nov. 18 – Nov. 22 | Lab 5 Regression | |
| 13 | Nov. 25 – Nov. 29 | No Lab | Lab 5 |
| 14 | Dec. 2 – Dec. 6 | No Lab | |

DISCLAIMER

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