University of Victoria

GEOGRAPHY 226 - A01
UNIVERSITY OF VICTORIA
Spring 2024
DR. MARK FLAHERTY

COURSE OUTLINE

Introduction to Quantitative Methods in Geography

Office Hours: Monday and Thursday 1:00 – 2:30 PM

Office Location: DTB B352

Contact: msf@uvic.ca

We acknowledge and respect the lək̓ʷəŋən 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

From satellites continuously orbiting the globe, sensors placed on the ocean floor, social network sites like Facebook, from teams of students coring trees or conducting interviews in First Nations communities, data are being collected everywhere and all the time. While computers allow us to store massive amounts of data, statistical methods are essential to the process of extracting useful information. If your passion is the environment, statistics help us to understand the impacts of climate change on oceans, plant and animal ranges, and human health. If your passion is in public policy, statistics help to inform governments and non-governmental organizations about the effectiveness of government programs such as poverty alleviation, community recycling, and opioid addiction reduction. In order to sort through and correctly interpret the wealth of data that are available, however, you need to understand the strengths and weaknesses of different statistical analysis tools.

REQUIRED TEXT(S)

A textbook is not required

LEARNING OUTCOMES

The main objectives of this course are to provide you with the skills for:

- Organizing and describing data in an informative way;
- Drawing inferences and constructing convincing arguments based on data analysis;
- Evaluating arguments based on data analysis that appear in the geographic literature as well as the media.
- An ability to choose and apply appropriate statistical tests based on their underlying assumptions and limitations.
- An ability to interpret, summarize and report the results from different statistical analyses.
- Greater appreciation of the role of statistical methods in scientific research.

EMAIL POLICY

Course announcements will be sent to your UVIC email account. Students are expected to check their account frequently as some communications may be time critical. Emails seeking information available in the course outline will not be answered.

EVALUATION

Mid-term Test 1	Thursday, February 15	15%
Mid-term Test 2	Thursday, March 14	20%
Laboratory Exercises – weekly (8)		25%
Final Exam		40%

NB: FORMULA SHEETS ARE NOT PROVIDED FOR TESTS OR THE FINAL EXAM

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 AND LABS

You **MUST** be registered in a Lab Section! Lab questions/problems should be addressed to your TA. For scheduling issues contact geography advising.

Lecture notes containing most***, but not all,*** of the PPT slides presented in the lectures, lab assignments, data sets and other course materials can be downloaded from Brightspace. NOTE: These materials are intended as supplements to the lectures. **They are not intended to replace the lectures.**

POLICY ON LATE ASSIGNMENTS

Lab assignments are due at the beginning of the following lab. Penalty for assignments handed in more than 24 hours late is **10%** of the value of the assignment. Assignments that are one week late will not be graded. Only the course instructor can grant exceptions.

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.

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.

WEEKLY CALENDAR

Lecture	Date	Topic	Lab
0	**January 8**	Course Introduction	
1	Jan 11	Measurement	
2	Jan 15	Descriptive Statistics	1 - Descriptive Statistics
3	Jan 18	Probability	
4	Jan 22	Conditional Probability	2 – Probability
5	Jan 25	Sampling	
6	Jan 29	Normal Curve and Z Scores	3 – Sampling and Z scores
7	**February 1**	Large Sample Confidence Interval	
8	Feb 5	Small Sample Confidence Interval	4 – Confidence Intervals
9	Feb 8	Hypotheses	
10	Feb 12	Goodness of Fit Tests	
	Feb 15	**MIDTERM 1**	**NO LAB**
	Feb 19	**READING BREAK**	
	Feb 22	**READING BREAK**	
11	Feb 26	Multi Sample Tests	5- Chi-square: One and Multi Sample
12	Feb 29	T-tests	

Lecture	Date	Topic	Lab
13	**March 4**	Paired T	6- t-tests
14	Mar 7	Correlation 1	
15	Mar 11	Correlation 2	7- Correlation
16	Mar 14	**MIDTERM 2**	
	Mar 18	Regression 1	8- Regression
17	Mar 21	Regression 2	
18	Mar 25	Non Parametric Stats	
19	Mar 28	Research Design	
20	**April 4**	**REVIEW**	
	Apr 8	**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