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## **COURSE OUTLINE**

### **Introduction to Quantitative Methods in Geography**

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**Lecture:** Mondays and Thursdays, 9 - 9:50 AM  
Cornett Building, B135

**Office Hours:** Mondays and Thursdays 10:30 AM - Noon  
Turpin B352

**Contact:** msf@uvic.ca

We acknowledge and respect the lək̓ʷəŋən 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**

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 programmes 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.

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### **COURSE OBJECTIVES**

**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.
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## LEARNING OUTCOMES

- 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 statistics as tool for 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.

## EVALUATION

Mid-term Test 1	Thursday, February 16	15%
Mid-term Test 2	Monday March 20	15%
Laboratory Exercises – weekly (9)		40%
Final Exam		30%

## GRADING SYSTEM

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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.

## GEOGRAPHY DEPARTMENT INFO

- Geography Department website: [uvic.ca/socialsciences/geography/](http://uvic.ca/socialsciences/geography/)
- Geography Department Chair: [geogchair@uvic.ca](mailto:geogchair@uvic.ca)
- Geography Undergraduate Advising: [geogadvising@uvic.ca](mailto: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 (*eg. answers to questions posed in the lecture will only be provided during the lecture*), 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.**

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## 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:** <http://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 <http://www.uvic.ca/learningandteaching/students/resources/expectations/>.

## 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 Resource Centre for Students with a Disability (RCSD <http://rcsd.uvic.ca/>) as soon as possible. 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.

## 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: [svpcoordinator@uvic.ca](mailto:svpcoordinator@uvic.ca)

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

## COURSE EXPERIENCE SURVEY (CES)

Towards the end of term you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). This survey provides important feedback to me regarding the course and my teaching. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device.

## WEEKLY CALENDAR

Lecture	Date	Topic	Lab
<b>0</b>	<b>January 9</b>	Course Introduction	
1	12	Measurement	
2	16	Descriptive Statistics	
3	19	Probability	1 - Descriptive Statistics
4	23	Conditional Probability and Odds	
5	26	Sampling	2 – Probability
6	30	Normal Curve and Z Scores	
7	<b>February 2</b>	Large Sample Confidence Interval	3 – Sampling and Z scores
8	6	Small Sample Confidence Interval	
9	9	Hypotheses	4 – Confidence Intervals
10	13	Goodness of Fit Tests	
	16	<b>Test 1</b>	<b>NO LAB</b>
	20	<b>READING BREAK</b>	
	23	<b>READING BREAK</b>	
11	27	Multi sample tests	
12	<b>March 2</b>	T Tests	5- Chi-square: One and Multi Sample
13	6	Paired t/ ANOVA	
14	9	ANOVA	6 – t tests
15	13	Correlation 1	
16	16	Correlation 2	7 - ANOVA
	20	<b>TEST 2</b>	
17	23	Regression 1	8 - Correlation
18	27	Regression 2	
19	30	Lying with Statistics	9 – Regression
20	<b>April 3</b>	<b>REVIEW</b>	
21	6	<b>REVIEW</b>	

**NOTE: Students should familiarize themselves with the course drop and add dates available at:**  
<https://www.uvic.ca/calendar/dates/>

The TA and Labs are:

- Monday 2:30 – 5:20 PM Clearihue A105 Vida Khalilian.
- Tuesday 12:30 – 3:20 PM Clearihue A105 Vida Khalilian
- Wednesday 2:30 – 5:20 PM Clearihue A105 Narges Raee
- Friday 9:30 – 12:20 PM Human & Social Development A160 Narges Raee

## **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/](http://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/](http://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/](http://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](http://uvic.ca/services/indigenous/students/programming/elders/index.php)