University of Victoria

COURSE OUTLINE

Introduction to Quantitative Methods in Geography

Office Hours: Monday 1:30 – 3:00 PM
Thursday 1:30 – 3:00 PM

Office Location: Turpin B352

Contact: (250) 721-7337 msf@uvic.ca

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.

COURSE GOAL

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.

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.

Lecture	Date	Topic	Lab
0	**January 7**	Course Intro	
1	10	Measurement	
2	14	Descriptive Statistics	0 – Intro Lab (no credit)
3	17	Probability	
4	21	Conditional Probability and Odds	1 – Descriptive Statistics
5	25	Sampling	
6	28	Normal Curve and Z Scores	2 - Probability
7	31	Large Sample Confidence Interval	
8	**February 4**	Small Sample Confidence Interval	3 – Sampling/Z Scores
9	**7**	Hypotheses	
10	11	Goodness of Fit Tests	4 – Confidence Intervals
11	14	**TEST 1**	
	18	**READING BREAK**	
	21	Multi Sample tests	
12	25	t-tests	5 – Chi-Square
13	28	Paired t/ANOVA	
14	**March 4**	ANOVA	6 – t tests
15	7	Correlation	
16	11	Correlation	7 - ANOVA
17	14	**TEST 2**	
18	18	Regression	8 - Correlation
19	21	Regression	
20	25	Nonparametric	9 - Regression
21	28	Research Design	
22	**April 1**	**REVIEW**	
	4	**REVIEW**	

EVALUATION: FORMULA SHEETS WILL NOT BE PROVIDED

Mid-term Test 1   Thursday February 14   - 14%
Mid-term Test 2   Thursday March 14   - 14%
Laboratory Exercises – weekly (9)   - 32%
Final Exam   - 40 %

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: http://geog.uvic.ca
- Undergraduate Advisor: Dr. Phil Wakefield – geogadvisor@uvic.ca

COURSESPACES AND LABS

You **MUST** be registered in a Lab Section! Lab questions/problems should be addressed to your TA. For scheduling issues contact the Senior Lab Instructor (Phil Wakefield).

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. NOTE: These materials are intended as supplements to the lectures. They are not intended to replace the lectures.

Username: your UVic Netlink-ID
Password: your UVic Netlink-ID password
Laboratory operating hours can be found at http://www.sfg.uvic.ca/hours.php

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.

COURSE EXPERIENCE SURVEY (CES)
AT the end of term you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device.