



COURSE OUTLINE

Introduction to Quantitative Methods in Geography

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: Mondays and Thursdays 9:00 am to 9:50 am
Location: COR A125

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

We acknowledge and respect the ləkʷəŋən 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 OBJECTIVES

- introduce methods for analyzing data;
- introduce descriptive statistics;
- introduce probability;
- introduce sampling;
- introduce inferential statistics;
- introduce non-parametric statistics;
- introduce correlation and simple linear regression;
- introduce basic plots and charts;
- gain familiarity with statistical software (R).

LEARNING OUTCOMES

1. ability to choose appropriate statistical methods;
 2. ability to complete hypothesis tests;
 3. ability to use R to carry out basic statistical analyses;
 4. ability to report and present statistical analyses.
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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), and can 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 Mondays and Thursdays from 9am-9:50am
- **At this time, 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 contact me or visit (during office hours) to discuss your ideas and questions anytime during this course.
- **Technology requirements for Labs:** The Labs employ Open source software (R Studio Desktop (<https://rstudio.com/products/rstudio>)). The software is also free to access and download on your own computers

REQUIRED TEXT

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

EVALUATION

Midterm Exam #1 (October 16 th in class)	10%
Midterm Exam #2 (November 17 th in class)	15%
Open Book Quizzes x 5 (posted to Brightspace)	10%
Laboratory Assignments x 5	30%
Final Exam (During Exam period)	35%

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 are two hours. 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 midterm exams and final exam will be based on lectures, labs, posted learning resources and class discussion. The final exam is comprehensive. Formats includes 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.**

Lecture Topics

1. Lab 0: Introduction to Lab and R (0%) **Mandatory**
2. Lab 1: Descriptive Statistics and Probability (5%)
Basics of data description and probability concepts.
3. Lab 2: Sampling, Z Scores, and Confidence Intervals (5%)
Methods of data collection, standard scores, and estimating population parameters.
4. Lab 3: T-Tests and ANOVA (5%)
Comparing means and understanding variance.
5. Lab 4: Non-Parametric Statistics (5%)
Non-parametric methods
6. Lab 5: Correlation and Regression Mini Project (10%) Due date December 3rd 5.00PM
Exploring relationships between variables and predictive modeling.

Week	Dates	Lab	Due Dates	Quizzes
1	Sept 2 nd to Sept 6 th	No Lab		
2	Sept 8 th to Sept 12 th	Lab 0 (0%)	In Class	
3	Sept 15 th to Sept 19 th	Lab 1: Descriptive Statistics and Probability (5%)		
4	Sept 22 nd to Sept 26 th	Lab 2: Sampling, Z Scores, and Confidence Intervals (5%)	Lab1	Quiz 1
5	Sept 29 th to Oct 3 rd	Work period		
6	Oct 6 th to Oct 10 th	Lab 3: T-Tests and ANOVA (5%)	Lab 2	Quiz 2
7	Oct 13 th to Oct 17 th	Work period		
8	Oct 20 th to Oct 24 th	Lab 4 Non-Parametric Statistics	Lab 3	
9	Oct 27 th to Oct 31 st	Work period		Quiz 3
10	Nov 3 rd to Nov 7 th	Lab 5 Correlation and Regression Mini Project (10%)	Lab 4	
11	Nov 10 th to Nov 12 th	Reading Break		Quiz 4
12	Nov 17 th to Nov 21 st	Work period		
13	Nov 24 th to Nov 28 th	Work period		Quiz 5
14	Dec 1 st to Dec 5 th		Lab 5 December 3 rd 5PM	

GEOGRAPHY DEPARTMENT INFORMATION

Geography Department website: uvic.ca/socialsciences/geography/

Undergraduate Advising: geogadvising@uvic.ca

Department Chair: Dr. David Atkinson geogchair@uvic.ca

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). 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**.

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 not allowed

Please be advised that in this course you are not authorized to use any form of generative AI. To successfully complete course activities, generative AI is not required nor welcomed. Students should not make any use of generative AI tools such as ChatGPT, Grammarly, among others that use AI for content generation and editing. As the University of Victoria states on its Academic Integrity Policy “Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility.” Therefore, I expect you to comply with the course syllabus and I encourage you to enhance your academic experience in this course by refraining from use generative AI.

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.

ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. 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.

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.

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%	An A+, A, or A- is earned by work which is technically superior, shows mastery of the subject matter, and in the case of an A+ offers original insight and/or goes beyond course expectations. Normally achieved by a minority of students.
B+ B B-	6 5 4	77-79% 73-76% 70-72%	A B+, B, or B- is earned by work that indicates a good comprehension of the course material, a good command of the skills needed to work with the course material, and the student's full engagement with the course requirements and activities. A B+ represents a more complex understanding and/or application of the course material. Normally achieved by the largest number of students.
C+ C	3 2	65-69% 60-64%	A C+ or C is earned by work that indicates an adequate comprehension of the course material and the skills needed to work with the course material and that indicates the student has met the basic requirements for completing assigned work and/or participating in class activities.
D	1	50-59%	A D is earned by work that indicates minimal command of the course materials and/or minimal participation in class activities that is worthy of course credit toward the degree.
F	0	0-49%	F is earned by work, which after the completion of course requirements, is inadequate and unworthy of course credit towards the degree.
N	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.