ORIGINAL COURSE IMPLEMENTATION DATE: January 1996
REVISED COURSE IMPLEMENTATION DATE: September 2026
COURSE TO BE REVIEWED (six years after UEC approval)**:** March 2032
Course outline form version: 29/08/2024

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: GEOG 252	**Number of Credits:** 3 Course credit policy (105)
Course Full Title: Explanation in Geography: Quantitative Methods **Course Short Title:** Quantitative Methods	
Faculty: Faculty of Science	**Department/School:** Planning, Geography and Environmental Studies

Calendar Description:

A numerical approach to problem-solving in geography. Methods in the collection, description, analysis, and presentation of quantitative data will be addressed.

Prerequisites (or NONE):	None.
Corequisites (if applicable, or NONE):	None.
Pre/corequisites (if applicable, or NONE):	None.

Antirequisite Courses *(Cannot be taken for additional credit.)*

Former course code/number: **GEOG 352**

Cross-listed with:

Equivalent course(s):

(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar	20
Supervised laboratory hours (computer lab)	25
Total hours	**45**

Scheduled Laboratory Hours

Labs to be scheduled independent of lecture hours: **No**

Course Details

Special Topics course: **No**
(If yes, the course will be offered under different letter designations representing different topics.)

Directed Study course: **No**
(See policy 207 for more information.)

Grading System: **Letter grades**

Delivery Mode: **May be offered in multiple delivery modes**

Expected frequency: **Twice per year**

Maximum enrolment (for information only)**: 25**

Prior Learning Assessment and Recognition (PLAR)

PLAR is available for this course.

Transfer Credit *(See **bctransferguide.ca**.)*

Transfer credit already exists: **No**

Submit outline for (re)articulation: **No**
(If yes, fill in transfer credit form.)

Department approval	**Date of meeting:**	January 16, 2026
Faculty Council approval	**Date of meeting:**	February 6, 2026
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	March 27, 2026

Learning Outcomes *(These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.)*

Upon successful completion of this course, students will be able to:

1. Apply methods in descriptive, inferential and relational statistics to the task of problem solving in geography.
2. Use quantitative methods to test hypotheses.
3. Create spreadsheets to enter, organize, and manage quantitative datasets drawn from real-world context (e.g. Lower Mainland municipal data and First Nations reserve/community data).
4. Convert geographical questions into statistically testable propositions and research designs.
5. Develop a basic working ability with statistical software, such as SPSS.

Recommended Evaluation Methods and Weighting *(Evaluation should align to learning outcomes.)*

Project:	25%	Lab work:	50%	Quizzes/tests/midterm:	25%
	%		%		%

Details:

Lab work has 10 statistical labs present in the textbook with data provided from the publisher.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.)*

Lectures, guest presentations, computer lab assignments, class discussions.

Texts and Resource Materials *(Include online resources and Indigenous knowledge sources. Open Educational Resources (OER) should be included whenever possible. If more space is required, use the Supplemental Texts and Resource Materials form.)*

	Type	Author or description	Title and publication/access details	Year
1.	Textbook	Roberts, Lance W., Karen Kampen and Tracey Pete	The Statistics Coach: Learning Through Practice	2010
2.	Textbook	Harris, Richard and Claire Jarvis	Statistics for Geography and Environmental Science	2011
3.	Textbook	Michael Haan and Jenny Godley	An Introduction to Statistics for Canadian Social Scientists, Third Edition	Current
4.	Textbook	R. Lyman Ott and , Micheal T. Longnecker	An Introduction to Statistical Methods and Data Analysis (recommended reading)	Current
5.				

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

None

Course Content and Topics

1. What is quantitative data and where does it come from: issues of scale, measurement, and collection
2. The normal curve and its role in statistics
3. Probability, and hypothesis testing
4. Devising testable propositions in Geography
5. Survey design and sampling
6. The ethics of data collection and use
7. How to detect and measure relationships in quantitative data
8. How to build and manage a spreadsheet for geographical analysis
9. Applications of correlation and regression