

GEOG 3210A – Course Name

Course Outline: Section 001 Fall 2024

1. Course Information

*Details about design and delivery of the course are listed below in Section 6



Classes Start	Fall Reading Week	Classes End	Study day(s)	Exam Period
September 5	October 14-20	December 6	December 7 & 8	December 9-22

September 13, 2024: Last day to add a second-term half course

October 14, 2024: Thanksgiving Holiday

November 30, 2024: Last day to drop a first term half course without penalty



Course Instructor	Contact Information	Office Hours
Jed Long	Jed.long@uwo.ca	TBD

Teaching Assistant(s)	Contact Information	Office Hours
Hailyee Ha	TBD	TBD



Office hours will be held in person

2. Calendar Description

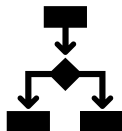
An introduction to multivariate statistics and data analysis using computational methods; reproducibility in data analysis, data presentation, exploratory data analysis, and data mining for Geography.

2 lecture hours, 2 laboratory hours, 0.5 course

Antirequisite(s): All other senior level statistics courses numbered 2000 or above and not listed in the prerequisites.

Prerequisite(s): [Geography 2210A/B](#) or [Biology 2244A/B](#) or [Statistical Sciences 2244A/B](#) and enrolment in a geography program or permission from the instructor.

Prerequisite checking is the student's responsibility



Senate Regulations state, “unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.”

3. Textbook

All resources will be posted in OWL



Additional resources:

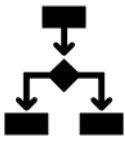
(Optional) Rogerson, P. A. (2015) *Statistical Methods for Geography: A Student's Guide*. SAGE Publications. Fourth Edition. pp 396. Paperback ISBN: 978-1446295731.

Textbook Website:

<https://study.sagepub.com/rogerson4e/student-resources/inferential-statistics>

4. Course Objectives and Format

Course Objectives:



- I. To develop a working knowledge of statistical concepts as applied to geographical data.
- II. To become competent in data visualization and exploratory (spatial) data analysis.
- III. To understand issues with performing statistical analysis on geographical data.
- IV. To learn new computational skills, specifically the statistical software R, along with RStudio.

Although mathematical detail is not emphasized, competence in simple mathematical notation and arithmetic are fundamental. All computations will be performed using statistical software. The primary piece of software we will be using is R and RStudio.

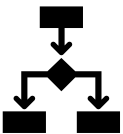
Course Format:

Lectures: In person lectures, online videos, live tutorials, and readings

Labs: 2 hrs (In person delivery, demonstration and supported work time).

Expectations:

- Engagement with lecture and lab material is imperative to success in this course.
- The course material is cumulative.
- You should review lectures and readings weekly.
- It is the student's responsibility to cover any material missed by failure to attend lectures, please also see all material on the course website.
- Students must be organized, especially with computer files, please seek help if you are struggling with this component.



Attendance is required

Missed work should be completed in a timely manner

All course material will be posted to the new OWL Brightspace learning environment: <https://westernu.brightspace.com/d2l/home>. Any changes will be indicated on the OWL site and discussed with the class.

Google Chrome or Mozilla Firefox are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

If students need assistance, they can seek support on the [OWL Brightspace Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

5. Course Content and Schedule

LECTURE CONTENT

Week	Dates	Topic	Readings
1	Sept 5-6	--	--
2	Sept 9-13	Course Overview	Ch. 1, Ch. 2
3	Sept 16-20	Visualizing Data	Ch 3
4	Sept 23-27	Probability	Ch. 4, Ch. 5
5	Sept 30-Oct 4	Statistical Tests	Ch. 6
6	October 7-11	Advanced R	--
	October 14-18	Fall Reading Week	N/A
7	October 21-25	Correlation and Linear Regression	Ch. 7
8	October 28-Nov 1	Multivariate Regression	Ch. 9 (Sec. 9.1 – 9.5)
9	November 4-8	Logistic Regression	Ch. 8, Ch. 9 (Sec. 9.6)
10	November 11-15	Maps in R	--
11	November 18-22	Multivariate Cluster Analysis	Ch 12
12	November 25-29	Regionalization	--
13	Dec 2-6	Geocomputation	--



LAB CONTENT

Week	Dates	Topic	SWIRL
1	Sept 5-6	NO LAB	
2	Sept 9-13	Data Analysis in R	1 – 6
3	Sept 16-20	Visualizing Data	7, 12, 15
4	Sept 23-27	Data Analysis in R II	8-11
5	Sept 30-Oct 4	Probability and Statistical Tests	
6	October 7-11	Assignment 1 Help	
	October 14-18	Fall Reading Week	
7	October 21-25	Linear Regression	
8	October 28-Nov 1	Multivariate Regression	
9	November 4-8	Logistic Regression	
10	November 11-15	Assignment 2 Help	
11	November 18-22	Cluster Analysis	
12	November 25-29	Regionalization	
13	Dec 2-6	Assignment 3 Help	



6. Learning Outcome

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

- Analyse quantitative geographical and statistical data
- Make informative graphical visuals using various data types
- Perform statistical tests to compare between different groups
- Fit regression models (linear and non-linear) using multiple covariates
- Perform exploratory (spatial) data analysis, such as cluster analysis
- Code statistical tests in R using the RStudio environment
- Interpret statistical results from the work of others



7. Communication



- Students should check the OWL site prior to each lecture and lab
- Course updates will be provided on the OWL announcements
- Students should email their instructor(s) and teaching assistant(s) using OWL Brightspace
- For any other communication, the centrally administered **e-mail account** provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).
- This course will use the OWL Brightspace for discussions
- Students should post all course-related content on the discussion forum so that everyone can access answers to questions [This policy really helps with equity in the classroom. Some students are more comfortable reaching out to instructors, but everyone should have access to resources. Encourage posting on a forum so that students help one another, and all can see the responses.]
- The discussion forums will be monitored daily by instructors or teaching assistants

8. Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Format	Weighting	Due Date
Labs	Lab questions	10%	Varies
Assignment 1	Report	20%	Friday, October 11
Assignment 2	Report	20%	Friday, November 15
Assignment 3	Report	20%	Friday, December 6
Final Exam	Take Home	30%	TBD



The evaluation methods described in the course outline are essential requirements for the course.

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text.

- All assignments are due at 11:55 pm EST unless otherwise specified

- Written assignments will be submitted to Turnitin (statement in policies below)
- Students will have unlimited submissions to Turnitin
- After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.

9. Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).

General Information about missed work:

University policy on academic considerations are described [here](#). This policy requires that all requests for academic considerations must be accompanied by a self-attestation. Further information about academic considerations, and information about submitting this self-attestation with your academic consideration request may be found here.

Please note that any academic considerations granted in this course will be determined by the instructor, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course outline.

Formal Documentation Designation statement:

Dr Long's Flexible Assignment Policy:

Every student will be allowed to submit an assignment late one time. You will have up to 5 days to get your assignment in late (until the following Wednesday). THERE IS NO NEED to email the instructor, the TA will identify this the first time you submit late. No questions will be asked. Any additional extensions or longer extensions will require formal academic consideration, otherwise late penalty will apply.

Absence from Course Commitments

Students must familiarize themselves with the [Policy on Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term without supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g. December and April exams) and for practical laboratory and performance tests typically schedule during the last week of the term. Students should also note that the instructor may designate one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course outline. Supporting documentation for academic considerations for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner.

Accommodation for Religious Holidays

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

10. Make-up Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents.

The format and content of make-ups may differ substantially from the scheduled test or examination.

If a student fails to write a scheduled Special Examination, permission to write another Special Examination will be granted only with the permission of the Dean in exceptional circumstances and with appropriate supporting documents. In such a case, the date of this Special Examination normally will be the scheduled date for the final exam the next time the course is offered and the maximum course load for that term reduced by the credit of the course(s) for which the final examination has been deferred. If permission for such a further deferral or other accommodation is not granted, a course grade based on an examination mark of zero (0) will be entered.

You can find the actual policy [here](#)

11. Use of Electronic Devices

Electronic devices will be allowed during tests and examinations.

12. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

1. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
2. Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
3. Follow weekly checklists created on OWL or create your own to help you stay on track.
4. Take notes as you go through the lesson material. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively.
5. Connect with others. Try forming a study group and try meeting on a weekly basis for study and peer support.
6. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
7. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.



13. Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

14. Western's Commitment to Accessibility

The Department of Geography and Environment strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities.

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2147 for any specific question regarding an accommodation. Information regarding accommodation of exams is available on the Registrar's website.

More information about "Accessibility at Western" is available.

15. Mental Health

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit Western's [Health and Wellness website](#) for more information on mental health resources.

16. Support Services

[Western's Support Services](#)
[Student Development Centre](#)

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

17. Important Dates

September 5: Classes resume

September 13: Last day to add a first term half course

October 14: Thanksgiving Holiday – Department Office Closed

October 14-20: Fall Reading Week (No classes; Department Office open)

November 30: Last day to drop a first term half course or a full course without penalty

December 6: Classes end

December 7 and 8: Study days

December 9-22: Examination Period