

GEOG 686 L01 Applied Statistics and Geospatial Analysis

GFC Hours 3-2

Fall 2022 classes: September 6th – December 7th, 2022

Section	Days	Time	Location
L01	TBA	Asynchronous	Web-based
B01	TBA	Asynchronous	Web-based

Instructor: Dr. Stefania Bertazzon	Office:
Telephone:	Email: bertazzs@ucalgary.ca
Email communication will be through your UCalgary email address.	Office hours:

The **Department of Geography** condemns the longstanding and continued injustices against those marginalized by racism, sexism, homophobia, transphobia, classism, xenophobia, able-bodied normativity, mental health profiling, and other forms of prejudice. We are pained by the fact that injustices are unevenly borne. <https://arts.ucalgary.ca/news/anti-racism-statement>

Territorial Acknowledgement

The Department of Geography would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III. <https://www.ucalgary.ca/indigenous/cultural-protocol>

Official Course Description

Topics include descriptive statistics, probability theory, sampling design, inferential statistics, model validation and assessment of uncertainty, and applied multivariate analysis. Techniques and examples emphasize the use of geospatial data for constructing models of geographic phenomena and spatial problem-solving.

Course Objectives

The objective of this course to provide students with fundamental concepts, theory and application of statistical terminology, assumptions, and test procedures, which help address questions pertaining to human, physical and urban geography. By the end of this course students should hold fundamental knowledge of the use and limitations of basic statistical analyses and inferential testing procedures using multivariate datasets acquired at various data levels.

Prerequisites

Admission to the Graduate Certificate in Geospatial Information Technology or consent of the Department.

Course Format

The course is asynchronous.

Learning will occur asynchronously, i.e., lectures and lab presentations will be posted in the form of videos that students can watch in their own time. Both the instructor and the teaching assistant will offer synchronous contact time, i.e., each of them will be available for a scheduled time each week to discuss course material and address student queries. Students are encouraged to attend synchronous sessions. Dedicated discussion channels will also be available.

Learning Resources

An introductory textbook on statistical methods for geographers is recommended. Examples are:

Burt J., Barber G., Rigby, D., 2009. Elementary Statistics for Geographers. Third Edition. Guilford Press.

Rogerson, P.A., 2015. Statistical Methods for Geography. Sage Publications Ltd., London.

Chapman McGrew J. Jr., Lembo A.J. Jr., and Monroe, C. B., An Introduction to Statistical Problem Solving in Geography, Third Edition. Waveland Press Inc, 2014.

Additional references may be suggested during the course.

Assessment Methods

Labs	40%	(5 labs)
Tests	30%	(2 quizzes, held on Oct. 12 th and Nov. 23 th)
Final project	30%	(proposal, due on Nov. 16 th , written report, due on Nov. 30 th , and oral presentation, due on Nov. 30 th s)

It is essential to pass all components to pass the course as whole, with components defined as follows:

In order to obtain the minimum graduate level passing grade (B-), *students must obtain no less than 70% in each of the following course components:*

1. Total sum of all the labs;
2. Total sum of Quiz 1 and Quiz 2;
3. Total sum of all the project deliverables (proposal, written report, and presentation).

Lab exercises are due at 8.00 a.m. MDT/MST on the due date specified in the class calendar, i.e., one week after the lab is assigned (unless otherwise specified).

The final project is an opportunity to perform an insightful statistical analysis on a research topic chosen by each individual student. Detailed guidelines for the project completion will be provided in class. The final project (written report and presentation) must be consistent with the project proposal. If the final project is not consistent with the proposal, the proposal will receive a 0 grade.

Late Policy:

Lab assignments, project proposal, and final project report and presentation are due on the date specified above, as well as in the calendar provided in class. They are due at 8.00 a.m. MDT/MST on that date. There are no exceptions and any piece of work handed in late will be subject to an immediate 10% penalty followed by a 10% reduction in grade for each day thereafter (weekends and holidays included). **Medical related circumstances will require a note from a physician.** 

Appropriate documentation shall be provided in support of other circumstances.

There is no final exam for this course.

Only pens, pencils and erasers are allowed in exams. No other materials or devices are allowed.

Grading System

96 – 100	A+	77 – 80	B	59 – 61	C-
90 – 95	A	71 – 76	B-	55 – 58	D+
86 – 89	A-	65 – 70	C+	50 – 54	D
81 – 85	B+	62 – 64	C	0 – 49	F

Flexible Grade Option (CG Grade)

<https://www.ucalgary.ca/pubs/calendar/current/f-1-3.html>

Additional Course Information

In the event that a student misses a midterm or any course work due to illness, supporting documentation, such as a medical note or a statutory declaration may be requested <https://www.ucalgary.ca/pubs/calendar/current/m-1.html>
Please refer to <https://www.ucalgary.ca/registrar/registration/appeals/student-faq> for frequently asked questions concerning the provision of a medical note/statutory declaration.

Exams & Deferrals <https://www.ucalgary.ca/registrar/exams>

Supplementary Fees

N/A

Referencing Standard

In written work presented in this class, the accepted method for referencing the work of others will be the Chicago Manual of Style: <https://www.chicagomanualofstyle.org/home.html>

Important Dates

The last day to drop this course and receive a tuition fee refund is **Thursday, September 15th, 2022**. The last day to add or swap a course for Fall 2022 is **Friday, September 16th, 2022**. The last day to withdraw from this course is **Wednesday, December 7th, 2022**. Please note that the University is closed on Friday, September 30th; Monday, October 10th; and Friday, November 11th, 2022.

For additional detailed course information posted by the instructor, visit the course Desire2Learn page online at <https://d2l.ucalgary.ca/d2l/home>.

Resources and Writing support

Please note writing support resources provided by the Student Success Centre <https://ucalgary.ca/ssc/resources/writing-support> and the library <https://libguides.ucalgary.ca/guides/>

University of Calgary Academic Integrity Policy

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

Plagiarism, Cheating, and Student Misconduct

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>

For students wishing to know more about what constitutes plagiarism and how to properly cite the work of others, the Department of Geography recommends that they attend Academic Integrity workshops offered through the Student Success Centre: <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>

Instructor Intellectual Property

Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures/intellectual-property-policy>

Freedom of Information and Protection of Privacy

Freedom of Information and Protection of Privacy (FOIP) legislation in Alberta disallows the practice of having students retrieve assignments from a public place, such as outside an instructor's office, the department office, etc. Term assignments will be returned to

students individually, during class or during the instructor's office hours; if students are unable to pick up their assignments from the instructor, they must provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

Posting of Grades and Picking-up of Assignments

Graded assignments will be returned by the instructor or teaching assistant personally during scheduled lecture or laboratory periods, unless they are made available electronically through the course D2L webpage. Grades and assignments will not be available at the Department of Geography's main office and assignments cannot be dropped off at the Department Office.

Academic Accommodations

It is the student's responsibility to request academic accommodations, according to the university policies and procedures listed in the University Calendar.

The student accommodation policy can be found at: <https://www.ucalgary.ca/pubs/calendar/current/b-6-1.html>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>

Students needing an accommodation based on a protected ground other than disability should communicate this need, preferably in writing to their instructor or the Department Head (email: freeman@ucalgary.ca).

Online courses: Learning Technologies and Requirements

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology.

- A computer with a supported operating system, as well as the latest security and malware updates
- A current and updates web browser
- Webcam (built in or external)
- Microphone and speaker (built in or external) or headset with microphone
- Broadband internet connection
- Statistical software available through the University of Calgary

Use of internet and electronic devices in class

Students are only permitted to use the software/tools required for each activity, e.g., zoom, or statistical software. The use of any other device, software or tool is not permitted.

Timed Assessments for Online and Blended Courses

Students will be provided with a 24-hour window in which they can access and complete a timed online assessment, except in those cases where prior approval has been obtained from the Dean of the faculty offering the course to host a synchronous assessment where students start and end at the same time (i.e. a common assessment time).

Contingency plan. In the event of a malfunction or other issue preventing a student from completing the timed assignment, the student must immediately contact the instructor by email, detailing the nature of the problem, the time of occurrence, and the portion of the assignment that could not be completed. Depending on the above circumstances, the instructor, at her discretion, will provide one of the following options: a make-up test administered at a mutually agreed time, an oral exam administered at a mutually agreed time, or a grade weight adjustment. Should the student fail to communicate immediately the problem to the instructor, no contingency plan will be implemented, and the student will be graded on the work they submitted.

Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a "live" video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith and respect (as per the [Code of Conduct](#)). When entering Zoom or other video conferencing sessions (such as MS Teams), you play a role in helping create an effective, safe and respectful learning environment.

Please be mindful of how your behavior in these sessions may affect others. Participants are required to use names officially associated with their UCID (legal or preferred names listed in the Student Centre) when engaging in these activities. Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of Calgary conduct policies (e.g. Student Non Academic Misconduct Policy). If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your Zoom sessions visit: <https://elearn.ucalgary.ca/guidelines-for-zoom/>.

If you are unable to attend a Zoom session, please contact your instructor to arrange an alternative activity for the missed session (e.g., to review a recorded session). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (for group work, presentations, etc.).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

Media Recording (if applicable)

Please refer to the following statement on media recording of students: https://elearn.ucalgary.ca/wp-content/uploads/2020/05/Media-Recording-in-Learning-Environments-OSP_FINAL.pdf

Course evaluations and student feedback

Student feedback will be sought at the end of the course through the standard University Student Ratings of Instruction (USRI) and Faculty course evaluation forms.

Accessibility

The course material is communicated through a blend of visual and audio forms. Accessibility concerns should be discussed with the course instructor asap.

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright <https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy> and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Act.

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness, and academic success and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support, or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy website (<http://www.ucalgary.ca/mentalhealth/>).

Students requiring assistance are encouraged to email the **Student at Risk line** if they or others appear to need wellness assistance: sar@ucalgary.ca For more immediate response, please call: 403-210-9355 and select option #2.

Sexual Violence Policy

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. Please see the policy available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/sexual-and-gender-based-violence-policy>

Contact Information for Student and Faculty Representation

- Student Union VP Academic 403-220-3911, suvpaca@ucalgary.ca
- Students Union Representatives for the Faculty of Arts – 403-220-3913, arts1@su.ucalgary.ca, arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca
- Student Ombuds Office information can be found at: www.ucalgary.ca/ombuds/

Emergency Evacuation/Assembly Points

Assembly points for emergencies have been identified across campus. Assembly points are designed to establish a location for information updates from the emergency responders to the evacuees; from the evacuated population to the emergency responders. For more information, see the University of Calgary's Emergency Management website: <https://www.ucalgary.ca/risk/emergency-management>

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus, including the LRT station, parking lots, bus zones, and university residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your campus destination.