

GEOG 639 LEC01 Advanced Spatial Analysis

GFC Hours 3-3

Winter 2023 classes: January 9th – April 12th

Section	Days	Time	Location
LEC 01	TR	2:00-3:15PM	ES 342
Lab 01	F	8:00-10:45AM	ES 415

Instructor: Dr. Stefania Bertazon	Office: ES 336
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Email communication will be through your UCalgary email address.	Office hours: TBD

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

History of spatial modelling in geography; comprehensive coverages of techniques, spatial analysis and spatial modelling as currently used within GIS and remote sensing.

Course Objectives

To provide students with analytical tools to help them understand spatial phenomena and to stimulate their critical thinking about spatial processes. The course will focus on the properties of spatial data and their effects on quantitative analysis. Students will learn an array of spatial analytical models, understanding their hypothesis, strengths, and limitations; they will learn to choose the most appropriate techniques for different research questions and spatial data. Concepts and theories of spatial analysis will be discussed, with reference to landmark and current literature.

Course Learning Outcomes

The Department of Geography is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes to which they contribute, and the expected level of achievement.

Prerequisites

Consent of the Department

Basic GIS skills; ability to manipulate data and conduct basic analyses; applied knowledge of scripting (preferably in R).

Learning Resources

Recommended: one or more of the following textbooks:

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

Fotheringham, A. S., Brunson, C., Charlton, M., 2000. Quantitative Geography. Perspectives on Spatial Data Analysis. London: SAGE.

Fortin, M.-J., Dale, M. R. T., 2005. Spatial Analysis. A Guide for Ecologists. Cambridge: Cambridge University Press.

Lloyd, C.D., 2006. Local Models for Spatial Analysis. CRC Press.

Additional material will be suggested in class and made available on D2L.

Assessment Methods

Labs and assignments	30%
Tests	35%
Final project	35%

Class Participation is not formally graded, but students are strongly encouraged to share their ideas, contributions, and questions in class.

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 and assignments;
2. Total sum of Test 1 and Test 2;
3. Total sum of the project component (proposal, written report, and presentation).

Lab exercises are due at the beginning of the lab session the week after the assignment (unless otherwise specified).

The final project is an opportunity to perform an insightful spatial statistical analysis on a research topic chosen by each student. Detailed guidelines will be provided in class. The final project (implementation, 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.*

There is no final examination.

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

- It is essential to pass all components to pass the course as whole
- Only pens, pencils and erasers are allowed in exams. No other materials or devices are allowed.
- Late assignment policy

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>

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). Special circumstances shall be supported by appropriate documentation.

Additional Course Information

Students are expected to write in English, conveying the main ideas clearly, consistently, and concisely. Additional details and examples will be provided in class. Students are expected to participate actively in class. Class participation is not graded but is highly encouraged. Should students miss a required component of the course, they must inform the instructor

as soon as possible, and provide supporting documentation, such as a statutory declaration

<https://www.ucalgary.ca/pubs/calendar/current/m-1.html> Please refer to
<https://www.ucalgary.ca/registrar/registration/appeals/student-faq>

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

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, January 19th, 2023**. The last day to add or swap a course for Winter 2023 is **Friday, January 20th, 2023**. The last day to withdraw from this course is **Wednesday, April 12th, 2023**. Please note that the University is closed on **Monday, February 20th** for Family Day. Term break is **February 19th – 25th**. The University is closed **Friday, April 7th** and **Monday, April 10th** for Easter.

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.

[University of Calgary : K. Integrity and Conduct \(ucalgary.ca\)](https://ucalgary.ca/k/integrity-and-conduct)

Plagiarism, Cheating, and Student Misconduct

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 information on 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 regulates the return of term assessments. 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. 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. Assignments will only be submitted digitally. Evaluations will be delivered digitally to students.

Research

N/A

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.

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>

Within the first week of classes, students needing an accommodation because of a disability or medical condition should register with Student Accessibility Services [Accessibility | Home | University of Calgary \(ucalgary.ca\)](#) 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).

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
- Broadband internet connection
- Optional technology: webcam (built in or external) / microphone and speaker (built in or external) or headset with microphone

Use of internet and electronic devices in class

The use of internet, laptops and devices is not allowed during course activities. Special requirements shall be discussed with the instructor as soon as possible.

Guidelines for Video Sessions

Video sessions maybe used in the event of instructor absence, for work within peer groups, or for other communication related to course obligations. To help ensure video sessions are private, do not share link or password with others via any medium, including social media platforms. Links and passwords are only intended for students registered in the course. Recordings and materials presented, 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 video conferencing sessions, 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 sessions visit: [eLearn @ UCalgary](#)

If you are unable to attend a 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 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 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 class 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

Include information on opportunities for students to provide feedback on the course for evaluation and continuous improvement. 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 as soon as possible.

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

Mental health plays a pivotal role 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

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> Assembly Point is ICT Food Court.

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.