

GEOG 639 LEC 01 Advanced Spatial Analysis and Modelling Winter 2022 classes: January 10th – April 12th, 2022
GFC HOURS (3-3)

Section	Days	Time	Location
LEC 01	Monday	9:00am – 11:45am	Web-based
B01	TBA	TBA	Web-based

Instructor: Rizwan Shahid	Office: online / email
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Email communication will be through your UCalgary email address.	Office hours: by appointment

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

The objective of this course is to foster students understanding of theoretical and applied aspects of advance spatial analysis and modeling. Spatial data is special and if properly analyzed, it can assist in better modeling and prediction of the spatial phenomenon. This course will cover how to handle the inherited challenges (or rather opportunities) with the spatial data. Students will apply advanced spatial analytical and modelling techniques and will learn to choose the appropriate method based on the characteristics of spatial data and the research questions.

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.

Course Learning Outcomes	PLO(s)*	Level(s)**
Identify and explain spatial processes	2,7,8	2,3
Recognize and analyze the challenges with the spatial data analyses	4	2,3
Understand the difference between various spatial analytical methods	4	2,3
Choose appropriate method to analyze spatial data	5, 6	2,3
Apply advance spatial analysis methods and use graphs, and maps to effectively communicate the results	6,7	2,3

*PLOs = Program Learning Outcomes: 1 = reflect and communicate diverse human-environment perspectives, 2 = identify and explain human-environment processes, 3 = implement sampling, data collection, analyses and communication methods, 4 = analyze spatial and temporal aspects of human-environment systems, 5 = employ knowledge, arguments, and methodologies for solving human-environment problems, 6 = evaluate geospatial data and manipulate it to create cartographic products, 7 = communicate geographic concepts using oral, written, graphic, and cartographic modes, and 8 = demonstrate literacy skills.

**Levels: 1 = Introductory, 2 = Intermediate, and 3 = Advanced.

Prerequisites

Consent of the Department

Course Format

GEOG 639 is offered as an online course. Lectures will be either pre-recorded or delivered online during scheduled time/day of the week. For lectures delivered synchronously, the recording will be available for 24 hours. Detailed schedule will be provided during the class. Lecture slides will be provided on D2L.

Learning Resources

No specific text is required for this course; however, the following are recommended:

Rogerson, P.A. (2009) *Statistical Methods for Geography* Sage Publications Ltd., London.

Fotheringham, A. S., Brunsdon, 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 throughout the semester.

Assessment Methods

Labs and Assignments 35% (details and deadlines will be provided at the beginning of the course)

Tests 35% (2 oral midterms, held on February 28th & March 28th)

Final Project 30% (proposal due on March 21st, written report due on April 4th, oral presentations April 11th)

To successfully pass this course, student must obtain B- grade (>70%) in each of the following course components:

1. Total sum of all the labs and assignments
2. Total sum of midterms
3. Total sum of the project component (proposal, literature review, written project, and presentation)

All deliverables are due at 11:59 p.m. MDT on the stated date. Late submissions will be subject to a 10% penalty per day for the grading components. Contact the instructor at least one day in advance before the deadline if you anticipate that you will not be able to meet the deadline. An extension may be granted based on the circumstances. No extension after the deadline will be provided.

Oral midterms will consist of individual zoom/Microsoft Team meetings scheduled between 9:00 a.m. and 1:00 p.m. on the stated date.

There is no final exam for this course.

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

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, January 20th, 2022**. The last day to withdraw from this course is **Tuesday, April 12th, 2022**. No classes February 20 – 26th, 2022.

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

Writing support

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

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

All deliverables (labs, project proposals, final report, presentations, etc.) must be submitted electronically. Graded assignments will be returned by the instructor or teaching assistant electronically.

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).

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

Timed Assessments for Online and Blended Courses

Synchronous classes: Online tests and/or timed assessments have a due time within the scheduled class time, except in those special cases where prior approval has been obtained from the Dean of the faculty offering the course.

Asynchronous classes: The submission date and time for a timed assessment is to be clearly stated in the course outline.

- 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).
- In advance of a timed assessment, course instructors will indicate their availability to answer questions outside of the scheduled class time so students know when they can have questions answered.

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 with 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.

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.

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/policies/files/policies/sexual-violence-policy.pdf>

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/emergencymanagement>

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.