

**FINAL COURSE OUTLINE: WINTER 2019**

**GEOGRAPHY 639**

**H(3-3)**

**Advanced Spatial Analysis and Modelling**

<b>Section</b>	<b>Days</b>	<b>Times</b>	<b>Location</b>
LECO1	We	16:00 – 18:45	ES 342
LAB01	Fr	09:00 – 11:50	ES 415

Instructor: Torsten Geldsetzer	Office: ES 430
Contact details: Please email	Email: geldsetz@ucalgary.ca

**Please note: The appropriate emergency evacuation assembly point for all classes taught in Earth Sciences is the ICT Food Court.**

**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 Content:**

The course will 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, power 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.

**Prerequisite:** Consent of the Department. Basic GIS skills are recommended.

**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.

### **Grading/Weighting**

Labs	30%
Assignments	25%
Final project	45%

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

The final project is an opportunity to perform an insightful spatial statistical analysis on a research topic chosen by each individual student. Detailed guidelines for the project completion will be provided in class.

There is no final examination for this course.

It is not essential to pass all components of the course in order to pass the course as a whole.

### **Exemptions to the Examination and Tests Regulations**

N/A

### **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

### **Human subjects**

Students will NOT participate as subjects or researchers on human subjects.

### **Supplementary Fees**

N/A

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

## **SUPPLEMENTAL INFORMATION**

### **Writing across the Curriculum**

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The university supports the belief that throughout their university careers students should be taught how to write well, so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their university courses and, where appropriate, faculty members can and should consider quality of writing as a factor in the evaluation of student work. The services provided by Writing Support Services can be utilized by all undergraduate and graduate students who feel they require further assistance: [www.ucalgary.ca/ssc/writing\\_support/overview](http://www.ucalgary.ca/ssc/writing_support/overview).

### **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: [www.ucalgary.ca/access/accommodations/policy](http://www.ucalgary.ca/access/accommodations/policy). 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: [www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf](http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf).

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

### **Principles of Conduct**

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](http://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](http://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: [www.ucalgary.ca/pubs/calendar/current/k-5.html](http://www.ucalgary.ca/pubs/calendar/current/k-5.html).

### **Internet and electronic communication device information:**

There is no restriction on the use of laptops and tablets in class if they are used to take notes or find information relevant to the class, and if there is no disturbance or distraction of other students or the instructor. Phones must be turned off during class, unless you have previously identified yourself to the instructor as a health care or law enforcement professional. The use of any calculators and/or devices during examinations will not be allowed.

### **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 schedule 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.

### **Faculty of Arts Program Advising and Student Information Resources**

Have a question, but not sure where to start? The Faculty of Arts Students Centre is your information resource for everything in Arts! Drop in at SS 102, call us at 403-220-3580, or email us at [ascarts@ucalgary.ca](mailto:ascarts@ucalgary.ca). You can also visit the Faculty of Arts website at <http://arts.ucalgary.ca/undergraduate>, which provides detailed information about common academic concerns.

For guidance on course registration (add, drop, swap), information about paying fees, and assistance with your Student Centre, contact Enrolment Services at 403-210-7625 or visit them at the MacKimmie Block.

### **Contact Information for Student and Faculty Representation**

- SU VP Academic Phone: 220-3911 and e-mail: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)
- SU Faculty Rep. Phone: 220-3913 and e-mail: [arts1@ucalgary.ca](mailto:arts1@ucalgary.ca)
- The students ombudsman office information can be found at: [www.ucalgary.ca/ombuds/](http://www.ucalgary.ca/ombuds/)

### **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/>).

### **Documentation for Absences or Missed Course Assessments**

Students who are absent from class assessments (tests, participation activities, or other assignments) should inform the instructor as soon as possible. Instructors may request that evidence in the form of documentation be provided. If the reason provided for the absence is acceptable, instructors may decide that any arrangements made can take forms other than make-up tests or assignments. For example, the weight of a missed grade may be added to another assignment or test. For information on possible forms of documentation, including statutory declarations, please see <https://www.ucalgary.ca/pubs/calendar/current/n-1.html>.

### **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.

### **USRI Surveys**

At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing

learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference, so please participate in USRI surveys.