

GEOG 480 LEC01 Cartography and Geovisualization

GFC Hours 3-2

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

Section	Days	Time	Location
LEC 01	TR	9:30-10:45AM	SA147
B01	W	11:00-12:50PM	ES307
B02	F	8:00-9:50AM	ES307
Instructor: Dr. Dan Jacobson		Office: ES306	
Telephone: 403.220.2575		Email: dan.jacobson@ucalgary.ca	
Email communication will be through your UCalgary email address.		Office hours: Tues, Thurs 13:30-14:30 or via email	

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>
The instructor would like to acknowledge this land is known to the Blackfoot people as *Mohkinstis*, where the Elbow meets the Bow.

Official Course Description

Focuses on mapping technologies for cartography and geo-visualization. The role of cartography and geovisualization is explored both theoretically, and practically in the communication of spatial data. In lecture and lab-based settings, examines data considerations, map design fundamentals and techniques, map use and interactive design for the communication of geographic information.

Course Objectives

This course focuses on the creation and analysis of cartographic products. The lecture material will provide insights into the theory of cartographic representation, geographic visualization, and communication. A range of cartographic representations that are data and user appropriate will be created and critiqued. Work will be contextualized within recent debates and techniques in cartography and geovisualization. Cartography will be examined to illustrate, and analyze the power, societal, colonial, Indigenous and other inequities that are present in mapping. Students will become skilled at using industry-standard GIS software, ArcGIS® software suite, through weekly computer laboratory exercises and online training.

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)**
By the end of this course, a successful student will be able to:		
Produce a cartographic product appropriate to a dataset.	6,7	2
Select, analyze, and evaluate appropriate graphic representation techniques for a range of temporal, attribute, and spatial scales.	3,6,7	2
Assess, critique, and implement principles of map design: including layout, color, symbolization, and typography.	6,7	2
Implement and analyze data considerations for cartographic processes such as data abstraction, generalization, classification, and selection.	3,6,7	2

Discuss, interpret, and critique cartographic products, in the context of existing literature.	3,6,7,8	2
Examine, illustrate, and analyze the power, societal, colonial, Indigenous and Other inequities when interpreting map creation, use and evaluation.	1,4,7,8	2
Competently employ components of the ArcGIS® software suite and related software packages to map and visualize geographic data.	4,6,7	2

**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

3 units from Geography 231, 380.

Requisite Computer Skills

Students undertaking this course are expected to possess basic computer skills, particularly with the Microsoft Windows operating system (e.g., students should be able to navigate the contents of a drive, create folders, copy files, create and unpack .zip archives, etc.). Students must also possess basic proficiency with standard office productivity software, such as Microsoft Word, Excel, and PowerPoint.

Course Format

Course Format

Course components will be delivered in lectures, labs, and via associated readings

1. Lab components will be completed individually and be the student's own work. Consultation with other students is encouraged.
2. Term projects will be group projects.
3. Students will be expected to engage with each other on discussion boards and are also encouraged to conduct online meetings for different course components when their schedules permit.

Learning Resources – Textbook and Readings

The following textbook is **STRONGLY** recommended. Recommended readings will be provided out of this text.

Kraak, Menno-Jan & Ormeling, Ferjan. 2021. Cartography: Visualization of Geospatial Data, 4th edition. CRC Press. 9-781138-613959

An electronic version of this book can be purchased or rented through the UofC Bookstore. Also, the library has a 3-user licence for the book. It can be accessed [HERE](#). Note: there will be approximately 48 students from GEOG 480 who could, potentially, be accessing this book.

Required and recommended readings from other sources will be assigned – notifications will be posted online, and additional readings will not require purchase and be available through the UofC Library.

Learning Resources - Technologies (optional)

If you wish to contact your instructor or TA with a scheduled remote meeting, such as Teams or Zoom, the following technology is recommended:

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

Desire2Learn (D2L) will be used for the delivery of online content in this course.

Learning Resources – ArcGIS Pro and ArcGIS Online software

The exercises and assignments in this course will primarily use Esri’s ArcGIS Pro and ArcGIS Online software. This will be accessible in the lab sessions of the course, and at other ‘open’ lab times. Students may obtain a licence to install ArcGIS Pro on their personal computers. ArcGIS Pro runs on the Windows operating system only, and system requirements for the software can be found on the software vendor’s website [LINK](#). Note ArcGIS Pro version 2.8 will be installed in the Department of Geography labs.

For Apple Mac users, it may be possible to install the Windows operating system on a Mac computer using either Apple’s [Boot Camp](#) or a commercial virtualization client, such as [Parallels Desktop](#) or [VMware Fusion for Mac](#), although these options are supported by the University of Calgary, and students must obtain and install necessary software themselves (student discounts are often available to offset the cost of purchasing commercial virtualization software and a licence for the Windows operating system). Interested students are advised to contact their instructor for more information.

Anyone with a University IT account can create an Esri Account for access to ArcGIS Online, Esri Training and ArcGIS Pro *without having to submit a request*. Updated instructions are available in the following articles, previous instructions have been removed.

- [ArcGIS – Esri Account](#) (How to access ArcGIS Online, ArcGIS Pro and Esri Training)
- [ArcGIS Pro - Personal Computer](#) (How to install and license ArcGIS Pro on a personal computer)

Existing ArcGIS Online users have a couple of options; continue to use their existing Esri Account or create a new Esri Account accessible through their University IT login. For details, please see the ‘[ArcGIS – Esri Account Options](#)’ article.

For students who are unable to run ArcGIS Pro on their home computers, and wish to connect to lab, shared access to a campus computer via a remote connection will be available. For remote access, students will require a Windows or Mac-based computer and a reliable broadband connection. Details on how to schedule time on a shared computer using a remote desktop session will be provided at the beginning of the course.

Assessment Methods

The following evaluation components will be used to determine the overall grade in this course.

Component #1 – Term Tests & Online Engagement

Term Test #1 (Thurs Oct 20 in class)	5%
Term Test #2 (Tues Nov 29 in class)	5%
Online engagement exercises (literature group discussions)	20%

Component #2 – Lab Assignments & Term Project

Lab assignments	50%
Term project (group)	20%

Notes:

1. There is not a registrar scheduled final exam in this course.
2. To successfully pass this course, students must earn a passing grade for both Component #1 – Term Tests & Online Engagement **and** Component #2 – Lab Assignments & Term Project. For passing grades see Grading System below.

Further details about each evaluation component, such as lecture topics, lab assignment topics and deadlines, online engagement expectations, etc., will be provided at the beginning of the course. Two term tests will be scheduled during the term.

Late Assignments and Missed Evaluations

Late assignments will be assessed a penalty of 10% per day or portion thereof past the assigned deadline. If you anticipate that you will not meet a deadline for an assignment, contact your instructor or teaching assistant at least one business day before the deadline to discuss whether an extension can be granted. No extensions will be provided after the deadline.

Missed term tests or assignments will automatically receive a grade of zero (0). If a student has missed a required component of the course, they must contact the instructor immediately to discuss whether accommodations can be made. If extenuating circumstances contributed to a missed component, accommodations might include options such as assigning an alternate evaluation component or waiving the component and reweighting of the overall course grade, at the instructor's discretion (see the University Calendar – Academic Regulations section G.1.1 Course Assessments and Absences for procedures on missed term tests and assignments).

Grading System

96 – 100	A+	4.00	Outstanding performance
90 – 95	A	4.00	Excellent performance
86 – 89	A-	3.70	Approaching excellent performance
81 – 85	B+	3.30	Exceeding good performance
77 – 80	B	3.00	Good performance
71 – 76	B-	2.70	Approaching good performance
65 – 70	C+	2.30	Exceeding satisfactory performance
62 – 64	C	2.00	Satisfactory performance
59 – 61	C-	1.70	Approaching satisfactory performance.
55 – 58	D+	1.30	Marginal pass. Insufficient preparation for subsequent courses in the same subject
50 – 54	D	1.00	Minimal Pass. Insufficient preparation for subsequent courses in the same subject.
0 – 49	F	0.00	Failure. Did not meet course requirements.

Flexible Grade Option (CG Grade)

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

Administrative Policies and Procedures

This section describes the administrative policies and procedures that students are expected to follow for this course. If you have questions or concerns about these policies or procedures, please speak to your instructor immediately.

1. You will be required to complete several assignments during this course. A due date and time will be posted for each assignment, and these deadlines are strict. If extenuating circumstances arise that will prevent you from completing an assignment by the deadline, you must request an extension from your lab Teaching Assistant at least one business day in advance of the deadline. Late submissions will be accepted at a penalty of 10% per calendar day, or any portion thereof, past the deadline (11.50 pm) e.g., 1 hour late = 10% penalty, 25 hours late = 20% penalty).
2. All assignments must be submitted online through the course D2L page using the appropriate dropbox provided for each of your assignments
3. The D2L submission system enables you to view your uploaded files to verify that they are correct and complete (if you don't know how to do this, please ask your TA to demonstrate it for you). In this course, **you are required to verify that your uploaded submissions are correct.** Requests to resubmit materials after a submission deadline has passed, or especially after an assignment has been graded, will not be granted – ensure that you have uploaded the correct materials **before you** submit your work
4. All assignments must be submitted online following the instructions provided.

Submissions that do not follow the instructions will be penalized or rejected entirely (e.g., email submissions will not be accepted).

5. Your lab Teaching Assistant will be available for consultation and assistance during the scheduled lab period and their scheduled office hours. Your TA is not compensated for their time outside of these hours, so please refrain from seeking their help outside of lab hours or office hours.
(Remember, they are students, too, with their own busy schedule and work to complete!)
6. All materials presented in this course are examinable, including lecture materials, information presented orally by the instructor during lectures, assigned readings, online exercises, materials presented in the weekly assignments, etc.
7. **Plagiarism is a serious academic offence that will be vigilantly monitored and reported in this course.** Essentially, plagiarism can arise whenever a student submits material for evaluation that was not entirely their own work (e.g., copied from another student, “borrowed” from another source without proper citation, based on ideas that were not your own) and the source of that work was not appropriately acknowledged. All students in this course are required to review and become familiar with university policies and regulations regarding plagiarism and academic misconduct in the University Calendar.

Exams & Deferrals

<https://www.ucalgary.ca/registrar/exams>

Supplementary Fees

Not applicable

Referencing Standard

In written work presented in this class, the accepted method for referencing the work of others will be the APA style of the American Psychological Association, widely used by different disciplines. See <https://apastyle.apa.org/> for guidelines

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 electronically through D2L.

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).

Students are expected to attend all lectures and laboratory sessions IN-PERSON to complete this course successfully.

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.

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> Muster 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.