GEOGRAPHY 480
GFC HOURS (3-2)
Cartography and Geovisualization

Section	Days	Time	Location
LEC 01	TBA		Web-based
LAB 01	TBA		Web-based

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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
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 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. 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
Present, discuss, interpret, and critique cartographic products, in the context of existing literature.	3,6,7,8	2

Competently employ components of the ArcGIS® software suite and related software packages to map and visualize geographic data.	4,6,7	2

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. Students who do not possess these skills and proficiencies should contact the instructor prior to the start of the course to obtain suggestions for online training opportunities that should be completed before undertaking the course.

Course Format
All _required_ course components are entirely asynchronous.
1. There are no _required_ scheduled online meetings for this course. However, online meetings will be scheduled by the instructor and TA during the term to host question-and-answer sessions, facilitate class discussion, or assist with assignments. Attendance at these online sessions is not mandatory, and sessions will be recorded so that all students can access information provided in these meetings.
2. Lectures and lab introductions will be recorded and posted to Teams (more info below). Students will watch these on their own time.
3. Lab components will be completed individually and be the student's own work. Consultation with other students is encouraged.
4. Term projects will be group projects.
5. 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.
6. Although students are encouraged to consult with each other on most components, it is expected that no communication among students occurs during the two Term Test days (see schedule).

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.

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 50 students from GEOG 480 and GEOG 680 who could, potentially, be accessing this book.

Required 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 and Requirements
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 updated web browser
- Webcam (built-in or external)
- Microphone and speaker (built-in or external) or headset with microphone
- Broadband internet connection

Learning Resources - Teams for Education Learning Management System

This course will use the Microsoft Teams for Education online learning management system for most online course materials and interaction (e.g., video calls, text-based chat, posting of lecture materials, recorded videos, assignment submission, online gradebook, etc.). **To use Microsoft Teams, students are required to enable multi-factor authentication (MFA) on their UCalgary Office365 accounts.** For more information on multi-factor authentication and how to get started, see LINK. For information on obtaining and installing Microsoft Teams, see LINK. A Microsoft Teams software client capable of video calls will be required for some course components.

Enrolled students will receive an invitation to the course Microsoft Teams workspace during the first week of the term. Note that Microsoft Teams will largely replace Desire2Learn (D2L) and Zoom 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. 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.

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, 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 online evaluation components will be used to determine the overall grade in this course.

> ***Component #1 – Term Tests & Online Engagement***
> | | |
> |---|---|
> | Term Test #1 (begins Oct 28 @08:00; ends Oct 29 @08:00) | 15% |
> | Term Test #2 (begins Dec 06 @08:00; ends Dec 07 @08:00) | 10% |
> | Online engagement (literature group discussions) | 10% |
>
> ***Component #2 – Lab Assignments & Term Project***
> | | |
> |---|---|
> | Lab assignments | 50% |
> | Term project (group) | 15% |

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 online term tests will be scheduled during the term, and it is mandatory that you complete these tests on the scheduled date and time. Each test will be open-book (computer and web resources allowed) test and must be completed anytime within the 24-hour period (expected completion time is 50 minutes). <u>You may not consult with other **people** about course content during the test 24-hour periods.</u>

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. <u>No extensions will be provided after the deadline</u>.

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+	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

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. 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.
2. 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 (e.g., 1 hour late = 10% penalty, 25 hours late = 20% penalty).
3. 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).
4. 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 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 16th, 2021**. The last day to withdraw from this course is **Thursday, December 9th, 2021**.

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

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.

Research
Not applicable

Posting of Grades and Picking-up of Assignments
Graded assignments will be returned by the instructor or teaching assistant electronically through Teams.

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).

Guidelines for Teams Meeting Sessions

Teams 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 Teams sessions are private, do not share Teams link or password with others, or on any social media platforms. Teams links and passwords are only intended for students registered in the course. Teams recordings and materials presented in Teams, 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 Teams or other 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.

If you are unable to attend a Teams 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 Teams 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 Teams 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 Teams 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)

Optional meetings will occur throughout the course to allow for face-to-face Q&A. These meetings will be recorded in Teams. Students can opt out or shut off their cameras & mics.

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

Lecture and lab introductions will be recorded on Yuja. Captioning will be available.

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 disciplines 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/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.