Official Course Description
An introduction to fundamentals in cartography, remote sensing, geographic information systems and descriptive spatial statistics.

Course Objectives
Students completing this course will develop the foundational knowledge, technical skills, and practical experience necessary to pursue advanced courses in geospatial technologies, namely; cartography, GIS, remote sensing, and statistics.

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.

<table>
<thead>
<tr>
<th>Course Learning Outcomes</th>
<th>PLO(s)*</th>
<th>Level(s)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual models: discrete entities and continuous fields</td>
<td>3, 6</td>
<td>2</td>
</tr>
<tr>
<td>Data models: rasters and vectors</td>
<td>3, 6</td>
<td>1</td>
</tr>
<tr>
<td>Abstraction/generalization and model construction</td>
<td>3, 6</td>
<td>1</td>
</tr>
<tr>
<td>Scale: extent, resolution, representation, impact of changing scales</td>
<td>3, 6</td>
<td>1</td>
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<tr>
<td>Geometry, spatial relationships, and topology</td>
<td>3, 6</td>
<td>1</td>
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<tr>
<td>Spatial fallacy, MAUP, ecological fallacy</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Map projections and 2D transformations</td>
<td>3, 6</td>
<td>2</td>
</tr>
<tr>
<td>Coordinate systems: concepts and applications</td>
<td>3, 6</td>
<td>2</td>
</tr>
<tr>
<td>EMR interactions: absorption, transmission, scattering and reflection</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Elements of photo interpretation</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Image classification</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Measurement levels</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Principles of map design</td>
<td>3, 6</td>
<td>1</td>
</tr>
<tr>
<td>Graphic representation techniques</td>
<td>3, 6</td>
<td>2</td>
</tr>
</tbody>
</table>
Map use and production 3, 6 1
Geoid, datums, ellipsoids 3 2
Basic descriptive statistics (aspatial and spatial) 3 1
Concepts of sampling: sample units, sample size, sample selection 3 1
Accuracy, bias, and precision 3 1

*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
No prerequisites required.

Learning Resources

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

Grading (Weighting):

1. Laboratory Assignments 50%
   Lab assignments will be distributed Sunday nights on a ~weekly basis (see Course Schedule for details) via D2L. Completion deadlines for each lab will normally be the next Monday at 9:00AM (i.e., 7 days later), though some exceptions may occur. Please note that the deadlines are completion times, not assessment-beginning times. It is highly recommended that you complete your lab assignments well in advance of the deadlines.

2. Term Tests 20%
   Two term tests are scheduled for this course: one on February 23 and the other on March 23. Each test will be available for a 24-hour period: 12:00am to 11:59pm. The term tests will be 90 minutes in duration and can be completed any time during the 24-hour period. The term tests will be administered through D2L.

3. Final Exams 25%
   The final exam for this course will be scheduled by the Registrar. The final exam will be 180 minutes in duration and can be completed any time during the 24-hour period designated by the Registrar.

4. Class Participation 5%
   Class participation is strongly encouraged during weekly meetings and in other interactive elements of the course and will be assessed by the instructor.

There is a Registrar-scheduled final examination for this course. Exams and Term Tests in Geog 380 are "closed book". The following activities are NOT permitted:
• Use of study notes, textbooks, or any other reference materials

• Use of the internet for any purpose other than completing the assessment

• Any form of communication with others regarding course/exam content during the 24-hour exam period

Student engagement in any of these behaviours may constitute academic misconduct.

• It is **not** essential to pass all components in order to pass the course as whole

• It is **not** acceptable to copy-paste materials into exams or assignments

• Late assignments will be assessed a 10% penalty per day unless previous arrangements have been made

**Grading System**

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>96 – 100</td>
<td>A+</td>
</tr>
<tr>
<td>90 – 95</td>
<td>A</td>
</tr>
<tr>
<td>86 – 89</td>
<td>A-</td>
</tr>
<tr>
<td>81 – 85</td>
<td>B+</td>
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<tr>
<td>77 – 80</td>
<td>B</td>
</tr>
<tr>
<td>71 – 76</td>
<td>B-</td>
</tr>
<tr>
<td>65 – 70</td>
<td>C+</td>
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<tr>
<td>62 – 64</td>
<td>C</td>
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<tr>
<td>59 – 61</td>
<td>C-</td>
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<tr>
<td>55 – 58</td>
<td>D+</td>
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<tr>
<td>50 – 54</td>
<td>D</td>
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<tr>
<td>49</td>
<td>F</td>
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</tbody>
</table>

**Exams**
The only acceptable reasons for missing an examination or assignment in this class are debilitating illness, severe domestic affliction, religious conviction, or absence due to a faculty-approved activity. If you miss an assignment or examination and provide me with a valid explanation **in advance**, you will have one opportunity to make arrangements for the missed work. Without appropriate communication, you will receive a zero for that portion of your grade.

**Supplementary Fees**
There are no supplementary fees for this course.

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

**SUPPLEMENTAL INFORMATION**

**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. 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://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf

Instructor Intellectual Property

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.

Human subjects
Not applicable.

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 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 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/mmoderators 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.

**Posting of Grades and Picking-up of Assignments**
Graded assignments will be made available electronically through the course D2L webpage. Grades and assignments will not be available at the Department of Geography main office.

**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/policies/files/policies/student-accommodation-policy_0.pdf
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.

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: david.goldblum@ucalgary.ca).

**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/policies/files/policies/acceptable-use-of-material-protected-by-copyright-policy.pdf 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/).

**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/
**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.