

GEOG 308 LEC01 Climate and Ecosystems

GFC Hours 3-2

Fall 2023 classes: September 5th – December 6th, 2023

Class Number 72530

| Section | Days | Time | Location |
|---|------|---|----------|
| LEC01 | MWF | 11:00 – 11:50 | ENA 103 |
| Lab 1 | W | 08:00 – 09:50 | ES 415 |
| Lab 2 | T | 11:00 – 12:50 | ES 415 |
| Lab 3 | R | 15:30 – 17:20 | ES 415 |
| Lab 4 | F | 14:00 – 15:50 | ES 415 |
| Instructor: Dr. David Barrett | | Office: BI 376 | |
| Telephone: 403-404-0562 | | Email: david.barrett@ucalgary.ca | |
| Use of your ucalgary.ca email is mandatory | | Office hours: Thursday 14:00 – 15:00 or 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

Introduction to the Earth's atmospheric environment (elements and controls of climate and their implications for hydrology, vegetation, and soils) and the nature and distribution of ecosystems and vegetation. Incorporates interactions between humans and their environment, especially those leading to global change on the decade to century time-scale.

Course Objectives

Students in this course will learn to:

1. Explain the various modes of energy transfer that occur at the Earth's surface and throughout the atmosphere.
2. Understand atmospheric circulation, and how it is controlled energy transfers and the fundamental properties of air.
3. Explain the general circulation of Earth's atmosphere, and its relationship to weather and climate patterns.
4. Explain and predict how climate patterns affect vegetation biomes, and how changes in climate lead to plant succession.
5. Use analytical techniques to study the state of the atmosphere and its dynamics.
6. Identify reliable sources of scientific information, and construct knowledge from primary sources.

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 | PLOs* | Level** |
|--|------------|---------|
| Students should be able to explain basic atmospheric processes | 1, 2, 5, 7 | 2 |
| Students should be able to explain interactions and feedbacks between the atmosphere and Earth's surface | 1, 2, 5, 7 | 2 |
| Students should be able to explain basic drivers of climate change | 1, 2, 5, 7 | 2 |

| | | |
|---|-------------------|----------|
| Students should be able to analyze atmospheric data and models | 1,2,3,5,7 | 2 |
| Students should be able to discriminate human vs natural drivers of climate change | 1, 2, 5, 7 | 2 |
| Students should be able to explain plant succession, and its dependence upon weather and climate change | 1, 2, 5, 7 | 2 |
| Students should be able to the major vegetation biomes, and how their geographic location is dependent upon weather and climate | 1, 2, 5, 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

There are no prerequisites for this course.

Learning Resources

Required Textbook:

Discovering Physical Geography, 1st Edition (2017) Canadian Edition by Alan F. Arbogast, Lisa Ford, Daryl Dagesse. Print or eBook.

Assessment Methods / Grading

| | Weight | Date |
|---------------------------------------|---------------|--------------------------------------|
| Midterm (50 min) | 25% | October 27 th – in-person |
| Final Exam (120 min) | 35% | Registrar scheduled |
| Lab assignments/quizzes (5 x 8% each) | 40% | Ongoing – see course schedule |

There are 5 labs in this course worth 8% per lab assessment. The lab evaluations will be done either by the submission of assignments (PDF or Microsoft Word files) **or** via a quiz administered via D2L. The schedule for lab evaluations will be shared in-class. For these assessments, it is critical that **individual work** must be submitted. Although students are permitted to collaborate on lab work for this course, each student must hand in an individual assignment reflecting their own work. Given the numerical nature of many of the assignments, this can lead to some confusion regarding plagiarism. In written questions, it is easy to ensure that responses are written “in your own words.” For mathematical problems, this can be more difficult; often there is only one correct approach to a question, and limited ways to express that approach in an assignment. In general, it is okay if two students’ hand in very similar answers to mathematical questions, provided they **each did the work themselves**. The line is quite clear: there should be **no digital files transferred between students**. Two students can be sitting next to each other working together but that should be done on **two separate computers**, working together on **two separate documents**. To make life easier on the TA marking your assignments, you may wish to format your documents differently to make it clear that two people did the work.

The midterm exam will be **in-person**, and held in the classroom, on October 27th. An alternative make-up exam date will be provided for individuals with extenuating circumstances. The final exam will be registrar scheduled and will be in-person.

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 |

Missed Course Assessments

If you miss one of the course assessments (exam or lab assignment), and possess a legitimate excuse, please email myself (david.barrett@ucalgary.ca) or your lab TA (for lab assessments) as soon as possible.

- At the discretion of the instructor and department, accommodations such as a deferred exam may be offered for a missed midterm exam or the final exam.
- Late assignments will be penalized at 20% per day, or portion thereof (including weekends), unless accompanied by a legitimate excuse.
- Missed D2L quizzes will be given a score of zero, there will be NO alternative arrangements to make up missed D2L quizzes unless a valid reason for missing is presented.

Important Dates

The last day to drop this course and receive a tuition fee refund is **September 14th, 2023**. The last day to add or swap a course for Fall 2023 is **September 15th, 2023**. The last day to withdraw from this course is **December 6th, 2023**. Please note that the University is closed on **Monday October 9th** for Thanksgiving. There are also no lectures or labs during the reading break which is **November 13 – 17th, 2023**.

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/>

Participation of Students as Human Subjects in Research - Not applicable.

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.

[University of Calgary : K. Integrity and Conduct \(ucalgary.ca\)](https://ucalgary.ca/k-integrity-and-conduct)

Plagiarism, Cheating, and Student Misconduct

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 information on 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 regulates the return of term assessments. 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. Grades and assignments will not be available at the Department of Geography's main office and assignments cannot be dropped off at the Department Office.

Posting of Grades and Picking-up of Assignments

Graded assignments will be returned by the instructor or teaching assistant in-person during scheduled lecture or lab periods, unless they are processed and uploaded through D2L. Arrangements for pick-up outside of these periods is on a case-by-case basis. Please e-mail me to arrange.

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>

Within the first week of classes, students needing an accommodation because of a disability or medical condition should register with Student Accessibility Services [Accessibility | Home | University of Calgary \(ucalgary.ca\)](#) 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 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
- Broadband internet connection

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

Mental health plays a pivotal role 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

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>. The assembly point for both the lecture room (Engineering A) and the lab room is the 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.