University of Victoria

GEOGRAPHY 272 - A01
UNIVERSITY OF VICTORIA
FALL TERM 2023
Dr. Sophie Norris

COURSE OUTLINE

GEOG272: Introduction to Climatology and Hydrology

We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Course materials and instructions will be made available on Brightspace (bright.uvic.ca). Please read this outline and further instruction carefully.
The laboratory component of this course is supported by Senior Laboratory Instructor Gillian Krezoski (**gkrezoski@uvic.ca**) and TA Osamu Kabayama (**okabayama@uvic.ca**). You can find all lab assignments and supporting material on Brightspace. All contact information and lab details will be provided.

Instructor: Dr. Sophie Norris
Office Hours: Friday 11.30-12.30 pm (my office David Turpin Building B128)
Contact: sophienorris@uvic.ca
Lectures: T, W, F 11:30 – 12:20 (A01) Clearihue Building A224 (CRN: 11787)

Labs:	W	8:30 – 10:20	(B01) – David Turpin Bldg. B307
	W	12:30 – 14:20	(B02) – David Turpin Bldg. B307
	Th	14:30 – 16:20	(B03) – David Turpin Bldg. B307
	F	12:30 – 14:20	(B04) – David Turpin Bldg. B307

COURSE DESCRIPTION

Weather, climate, and the movement of water constantly affect our lives and activities. Together these factors determine, in part, the types of vegetation present, the nature of the soils and landforms, potential agricultural activity, the form of our cities, and simply how we live our lives. As well as being influenced by it, human activities can influence these processes. This course seeks to equip you with an understanding of climate, weather, and the flow of water necessary to better understand the structure, energy, and water processes in the Earth System – potentially in preparation for further study. Additionally, it will provide you with a basic understanding of the factors governing climate and driving climate change and allow you to be a more effective citizen by fully engaging in and appreciating the global environmental change debate.

This course is a general introduction to climatology and hydrology, with an emphasis on the essential controls of weather and climate, broad patterns and dynamics of the global climate, basic hydrology with a focus on the core scientific concepts that form our understanding of climate processes and the drivers of climate and hydrologic change.

LEARNING OUTCOMES

- Learn about the global energy balance, and regional climate and weather patterns and some of the physics behind these processes
- Learn about the global water cycle, water flows and how these influence water resources
- Understand how climate and water data are collected, analyzed and used
- Develop an understanding of models used in climate and water analyses
- Understand the basic drivers of climate change and how it might impact society with an emphasis on water resources
- Observe and apply climatology and hydrology concepts in the laboratory component of the class

---

RECOMMENDED TEXT

Robert V. Rohli and Anthony J. Vega. 2017. *Climatology*. Jones & Bartlett Learning; 4th Edition
418p, ISBN 978-1284119985

This text is intended to provide an overview of different aspects of climatology, there will also be materials posted on Brightspace as needed to provide supplemental readings. Lectures will generally follow the outline of the text, although some topics will follow a slightly different order. The text is also a very valuable resource for the laboratory sections, especially in the latter half of the class. This syllabus and course outline lists suggested chapter readings for each section of the course, but we will spend significantly more time on the early chapters.

EVALUATION

The course grade will be based on the following

		Date (or date due)	Weight	Subject
1	Quizzes	Two Quizzes (10% each)	20%	Lecture, text and labs topics and external lecture reports
2	Mid-Term Test	Listed below	25 %	Lecture and text materials
3	Final Exam	Listed below	15 %	Lecture materials (all)
4	Labs	Detailed breakdown to follow in sections	40 %	Varied

EXAM AND QUIZZES:

There will be two quizzes, each based on the lecture sections and readings up to the previous quiz. Quizzes will be administered through Brightspace and are intended to emphasize concepts from the readings and lectures. There is one mid-term test. The final exam will be comprehensive but weighted 2:1 in the second half of the term, and it will contain some elements from your labs. The final exam will be 50 minutes long and held during the final lecture period. Further details will be discussed in class.

LABORATORY SECTIONS

The labs are an essential part of the course and **attendance is required**. There will be reports due; see the Lab Syllabus for a detailed schedule. All lab reports must be neatly typed, and figures must be cleanly and correctly presented following the format presented in the lab syllabus. The labs will give you

practice in using standard software for the analysis of climatic data and in making observations to build and support ideas about how things work. Preparing synthesis reports is a major skill needed in today's job market. Analysis and presentation of data is a necessary skill in all fields. Labs are not designed to march in step with lecture material – they are their own course component.

Please attend only the laboratory section for which you are registered. If you must miss a lab for exceptional circumstances, please arrange with your TA - in advance – to join another section. This however does not change the due date of your lab assignment.

Details regarding your labs and their marks are managed by the course TAs. Please discuss any issues or questions on labs with your TA first and then direct questions at the instructor if you would like further clarification. Of importance, your TAs and will not be answering emails 24/7. Make sure that you address all questions regarding assignments or lecture material in time to receive a response within the work week.

Extension on lab assignments will not be offered in this course. If you are unable to complete your lab assignment by the due date you will receive 0% for this lab assignment. If an assignment is missed due to an extenuating circumstance, attend your instructor's (Dr. Sophie Norris) next available office hours to discuss the possibility of a make-up assignment. A new make-up laboratory assignment will be issued in extenuating circumstances only and with appropriate documentation as necessary.

GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
A+ **A** **A-**	9 8 7	90-100% 85-89% 80-84%	**Exceptional**, **outstanding** and **excellent** performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
B+ **B** **B-**	6 5 4	77-79% 73-76% 70-72%	**Very good**, **good** and **solid** performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
C+ **C**	3 2	65-69% 60-64%	**Satisfactory**, or **minimally satisfactory**. These grades indicate a satisfactory performance and knowledge of the subject matter.
D	1	50-59%	**Marginal** Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
F	0	0-49%	**Unsatisfactory** performance. Wrote final examination and completed course requirements; no supplemental.
N	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.

GEOGRAPHY DEPARTMENT INFO

- Geography Department website: uvic.ca/socialsciences/geography/
- Geography Department Chair: geogchair@uvic.ca
- Geography Undergraduate Advising: geogadvising@uvic.ca

POLICY ON LATE ASSIGNMENTS

Deadlines for lab assignments can be found in the lab syllabus. Quizzes will be conducted through Brightspace and will have automatic deadlines. Requirements for each quiz may vary and will be announced in class or indicated on the quiz.

POLICY ON ATTENDANCE

Attendance is required for labs and assumed for lecture. While we will not take attendance during lecture, a significant portion of the exams will depend on lecture materials and it will be difficult to pass the course without regular attendance.

ACADEMIC INTEGRITY

It is every student's responsibility to be aware of the university's policies on academic integrity, including policies on **cheating, plagiarism**, **unauthorized use of an editor**, **multiple submission**, and **aiding others to cheat**.

Policy on Academic Integrity: web.uvic.ca/calendar2019-09/undergrad/info/regulations/academic-integrity.html. If you have any questions or doubts, talk to me, your course instructor.
For more information, see uvic.ca/learningandteaching/cac/index.php.

ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability or health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL as soon as possible https://www.uvic.ca/services/cal/). The RCSD staff is available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

POSITIVITY AND SAFETY

The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.

SEXUALIZED VIOLENCE PREVENTION AND RESPONSE AT UVIC

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR; Sedgewick C119
Phone: 250.721.8021
Email: svpcoordinator@uvic.ca
Web: uvic.ca/svp

RESOURCES FOR INTERNATIONAL STUDENTS

The University of Victoria offers a number of resources to support international students as they pursue their studies. UVic's International Centre for Students is the primary office supporting international students on campus at the university-wide level and provides various supportive program through the UVic Global Community Initiative, including a Mentorship Program and Conversation Partner Program. For academic advising-related questions, students in the Geography Department are also encouraged to meet with the Geography Undergraduate Advisor (geogadvising@uvic.ca) as well as an academic advisor in the Academic Advising Centre early in their studies to help map out a plan to declare a major and complete university program requirements. Other resources include the Centre for Academic Communication and the Math and Stats Assistance Centre. International students are also encouraged to contact the International Student Liaison in Geography (Prof. CindyAnn Rose-Redwood, cindyann@uvic.ca), who can assist in making connections with other international and domestic students in the Geography Department and share opportunities for getting involved in departmental activities more broadly.

COURSE EXPERIENCE SURVEY (CES)

I value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device. I will remind you and provide you with more detailed information nearer the time but please be thinking about this important activity during the course.

DISCLAIMER

The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.

NOTE:

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Counselling Services - *Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.* uvic.ca/services/counselling/

Health Services - *University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.* uvic.ca/services/health/

Centre for Accessible Learning - *The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations* uvic.ca/services/cal/*. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

Elders' Voices - *The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.*
uvic.ca/services/indigenous/students/programming/elders/index.php

WEEKLY CALENDAR

WEEK	DATE	Topic	Quizzes	Reading
1	Sep. 6 Sep. 8	L1- Course Intro L2- Intro to Climatology and Hydrology		Course Syllabus Chapter 1
2	Sep. 12 Sep. 13 Sep. 15	L3- Atmospheric Composition L4- Energy in the Climate System-Part 1 No Lecture-Self-guided reading session		Chapter 1&2
3	Sep. 19 Sep. 20 Sep. 22	L5- Energy in the Climate System-Part 2 L6-Surface Radiation Budget No Lecture-Self-guided reading session		Chapter 3&5
4	Sep. 26 Sep. 27 Sep. 29	L7-Calculating the Solar Constant L8- Controls on the Global Climate No Lecture-Self-guided reading session	**Quiz 1**	Practice calculation examples
5	Oct. 3 Oct. 4 Oct. 6	L9- Controls on the Global Climate L10- Controls on the Global Climate No Lecture-Self-guided reading session		Chapter 3&5
6	Oct. 10 Oct. 11 Oct. 13	L11- Controls on the Global Climate L12- El Nino Southern Oscillation No Lecture-Self-guided reading session		Chapters 4 & 7
7	Oct. 17 Oct. 18 **Oct. 20**	L13- El Nino Southern Oscillation L14- In class review and study session **MIDTERM EXAM (During lecture period)**		
8	Oct. 24 Oct. 25 Oct. 27	L15- Introduction to Hydrology L16- Introduction to Hydrology No Lecture-Self-guided reading session		Chapter 6
9	Oct. 31 Nov. 1 Nov. 3	L17- Introduction to Hydrology L18- Introduction to Hydrology No Lecture-Self-guided reading session		Chapter 6
10	Nov. 7 Nov. 8 Nov. 10	L19- Introduction to Hydrology L20- Introduction to Lakes No Lecture-Self-guided reading session	**Quiz 2**	
11		**READING BREAK** (No Class)		
12	Nov. 21 Nov. 22 Nov. 24	L21- Introduction to Limnology L22- Global Climatic Change No Lecture-Review/ Help Session		Chapter 11
13	Nov. 28 Nov. 29 **Dec. 1**	L23- Environmental Reconstruction L24- In class review and study session **FINAL EXAM (During lecture period)**		