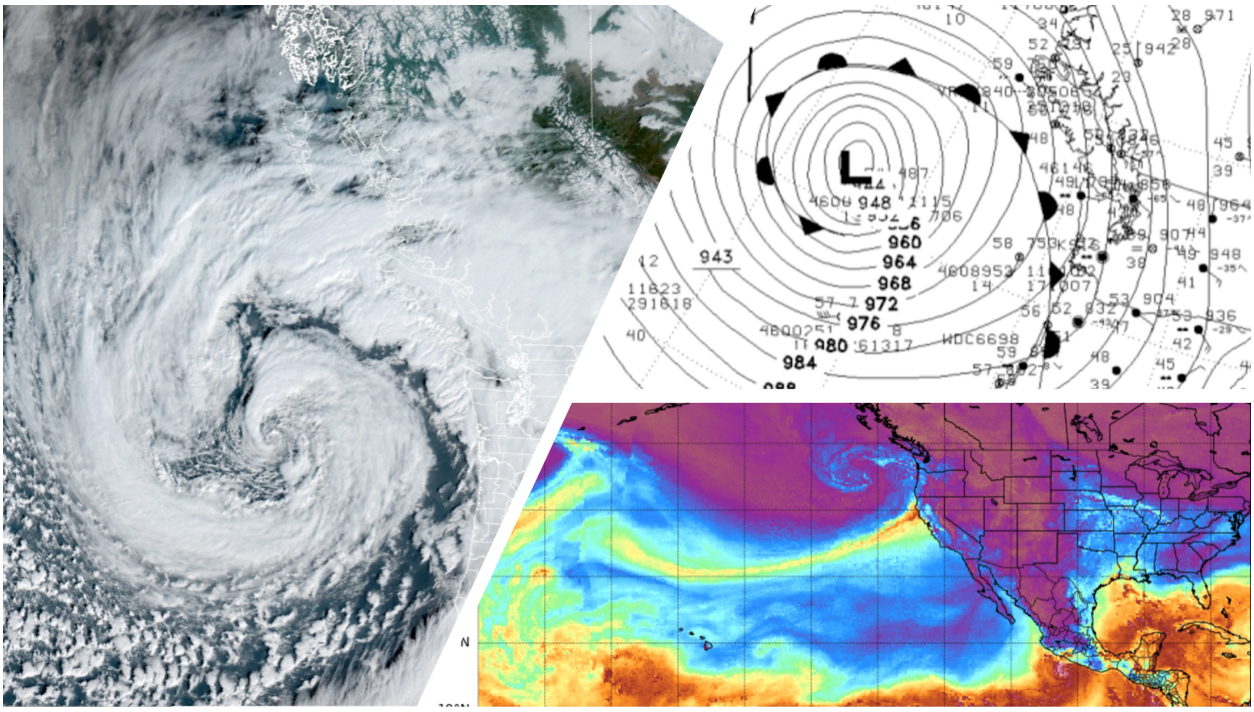
University of Victoria

GEOGRAPHY 484
UNIVERSITY OF VICTORIA
Spring Term 2023
Dr. Shannon Fargey

COURSE OUTLINE

Advanced Studies in Weather and Climate

As a visitor to these territories I express my gratitude and respect to the the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.



This course is an introduction to synoptic meteorology, with an emphasis on data handling, presentation, and the analysis of weather situations. Over the term detailed examination of atmospheric structures and processes underlying weather and climate will take place. This includes how weather observations are gathered and recorded, how data are prepared for analysis, and how analyses are performed such that you can understand how the weather we observe around us comes to be and the trajectories it is likely to take into the immediate future.

Class Meetings:	Mondays and Thursdays 10:00 to 11:20 am
Classroom:	DSB C114
Office Hours:	Tuesday 2:30-3:30 pm
	Fridays 9:00 to 11:00 am or by appointment.

INSTRUCTOR INFORMATION

Dr. Shannon Fargey Department of Geography, DTB B308, fargey@uvic.ca or 250-721-7342
When emailing me please include '**GEOG 484 your name: brief subject'** in the subject line, this helps me sort through emails and makes it easier to respond to your message. This helps me sort through emails and makes it easier to respond to your message. *It may take up to 48-hrs for a response. Please be patient. If you email after 12:00 pm on a Friday, do not expect a response until Monday.*

Office Hours: Tuesday 2:30-3:30 pm and Friday 9:00-11:00 am
I welcome you to come and discuss your ideas and questions anytime during this course, however because of the pandemic my 'normal' open-door policy is now a virtual one. Please use the office hour times above to drop in online or send me an email to make an appointment. If you cannot come in person, we can meet via zoom, however you need to set up an appointment in advance. Zoom link on Brightspace.

Profile: I am an Assistant Teaching Professor in the Geography Department. My role in the Department is primarily on program delivery, supporting student learning and discovery in Physical Geography, and Geomatics. I am passionate about hydrometeorological topics and field-based learning. To learn more about me, and stay updated with exciting new studies in our field, please visit my website shannonfargey.com and follow me on Twitter @fargetmenot

LEARNING OUTCOMES

- Describe how the worldwide system of weather observation gathering and forecasting works
- Know how to set up an instrumented data gathering system, including understanding appropriate equipment selection, power consumption issues for remote installations, and how to wire the equipment.
- Recognize a variety of operationally used weather charts and other sources of weather data (satellite, radar, surface observation formats such as METAR and the station model)
- Understand how numerical weather forecast models work and how they are operationally applied
- Interpret charts and data in a synthetic manner to explain observed weather and be able to produce a rudimentary, short-term forecast of the weather trajectory
- Give a weather briefing

EVALUATION

Assignments (x 4)	25%
Instrument Practicum* (week of Feb 2 to 9)	15%
Data Analysis Project (*Group*)	15%
Weather Briefing (*Partner*)	15%
Midterm Exams (x 2) 10% each	20%
Final Exam (in class)	10%

*outside class time required (more information on Brightspace)

REQUIRED TEXTS/LEARNING RESOURCES

There are required readings for this course. On Brightspace you will find links and descriptions of content you should reference to support your learning. You will also be responsible for your own research regarding resources that specifically support your project work independent of the list provided.

COURSE COMMUNICATION

Brightspace learning management systems (LMS) will serve as the main avenue of communication in this course. This is where I will put important resources that I think will help you along including course information, topic handouts, important dates, announcements, lab materials, and TA information (email addresses and office hours). Please go here first and visit often. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: helpdesk@uvic.ca, Tel: 250-721-7687

GEOGRAPHY DEPARTMENT INFORMATION

Geography Department website http://geog.uvic.ca
Undergraduate Advising team geogadvising@uvic.ca
Department Chair: Dr. David Atkinson geogchair@uvic.ca

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.

IMPORTANT COURSE POLICIES

Students must complete all evaluation components to obtain credit. Failure to complete an any evaluation component without permission from the instructor, will result in an 'N' grade, which equals a Grade Point Value of 0.

Late assignments will be penalized 20% per day (including weekends and holidays). Exceptions will only be granted for documented medical or compassionate reasons. Please inform the instructor of your situation promptly and present written proof within five working days. Only the course instructor can grant exceptions.

As an Instructor, I can refuse a student admission to a lecture, laboratory, learning activity or exam because of lateness, misconduct, inattention or failure to meet the responsibilities of the course. Students who neglect their academic work may be assigned a final grade of 'N' (which equals a Grade Point Value of 0) or debarred from final examinations. Please refer to the UVic academic calendar in the section on student academic conduct for further information.

Cell phones must be turned off or silenced during lectures and labs and ONLY be used during field activities if pertinent to do so.

Conflicts with holidays or travel plans are not considered an acceptable reason to apply for a deferred exam or assignment extension.

Unless otherwise stated students are expected to complete assignments independently.

PLAGIARISM

Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Victoria. The responsibility of the institution: Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects. The responsibility of the student: Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations, for referencing your sources, or unauthorized use of an editor, please familiarize yourself with the University policy on academic integrity found in the Undergraduate Calendar at the following website. http://web.uvic.ca/calendar /undergrad/info/regulations/academic-integrity.html.
Please contact me if you have any questions.

Infractions will be dealt with in accordance with University policy. Commonly, the penalty for any form of cheating/plagiarism is a grade of F on the tests or laboratory assignments, or a final grade of F in the course. However, depending on the severity of the case other penalties may include a record on the student's transcript or expulsion.

ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are

available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations http://www.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.

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. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavour to be respectful in our language, our examples, and the manner in which we conduct our discussions and group work. If you have any concerns about the climate of the class, please contact me.

COURSE EXPERIENCE SURVEY (CES)

We 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.

University of Victoria Important Dates
Jan 25– Last day for adding courses that begin in the first term.
Feb 28 - Last day for withdrawing from first term courses without penalty of failure
April 6 – Last day of classes for all faculties
Additional important dates can be accessed through the link below.
https://www.uvic.ca/calendar/dates/

DISCLAIMER

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

Tentative Schedule * *subject to change*

Week	Dates	Topics	
		Monday	Thursday
1	Jan 9 Jan 12	Weather analysis and Weather Instruments	
2	Jan 16 Jan 19	Meteorological data, reporting standards, model data **Assignment 1 Assigned (due Jan 26)**	
3	Jan 23 Jan 26	Spatial representation of met data – surface plots, upper air plots, contouring methods and issues	
4	Jan 30 Feb 2	Chart analysis **Guest Presenter: Claude Labine – Intro to Campbell Scientific Dataloggers (Thursday)**	
Instrument Practicum Week Feb 2 to Feb 9 Outside class time required. Be prepared to be available for full days (Friday and Saturdays)			
5	Feb 6 Feb 9	Vertical Soundings and hydrostatic stability **Guest Presenter: Claude Labine – Data Dump and Processing (Thursday)**	
6	Feb 13 Feb 16	Feb 13 - Midterm 1 **Assignment 2 Assigned (due March 2)** Feb 16 – no class	
7	Feb 20 Feb 23	Reading Break – No classes	
8	Feb 27 March 2	Wind and Forces in the atmosphere **Assignment 3 Assigned (due March 30)**	
9	March 6 March 9	Fronts, Jets and Airmasses Extratropical Cyclone	
10	March 13 March 16	Winter Storms	
11	March 20 March 23	Advanced data sources and Reanalysis **March 23 - Midterm 2**	
12	March 27 March 30	Satellite interpretation Overflow Content	
13	April 3 April 6	Review/Question Office Hours **Final Exam (Thursday)**	

Assignment 1: Instrument Practicum preparation (6%)
Assignment 2: Chart analysis (6%)
Assignment 3: Forecast Communication and Societal Impacts (8%)
Assignment 4: Paper presentation discussion (over term – sign up on Brightspace) (5%)