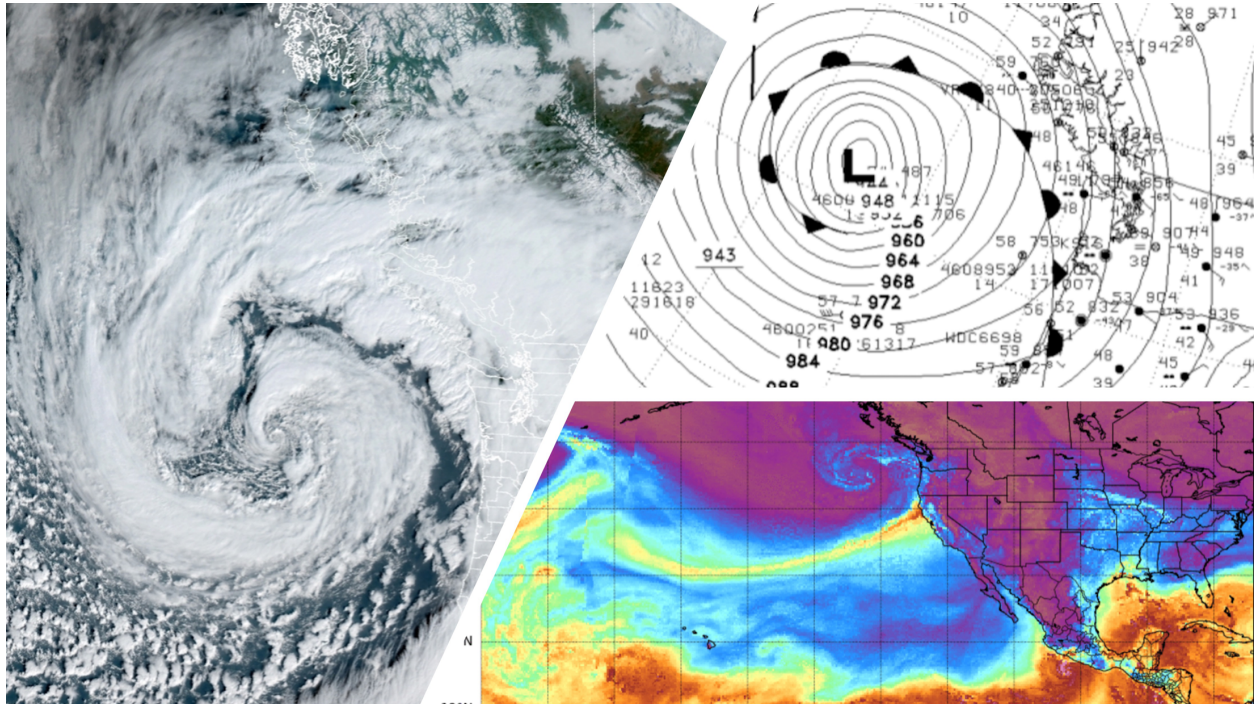




---

**COURSE OUTLINE**  
**Advanced Weather and Climate**

---



As a settler and uninvited guest to these territories, I express my gratitude and respect to the ləkʷəŋən 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.

**COURSE DESCRIPTION**

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 1:00 pm – 2:20pm  
Classroom: DTB B303

## INSTRUCTOR INFORMATION

**Office Hours: Thursday 2:30-3:30 pm\*** or **Friday 9:00-11:00 am\***. \*On occasion I will need reschedule. If this happens, I will send a message out on Brightspace. I welcome you to come and discuss your ideas and questions at times other than office hours, I have an open-door policy.

**Office Location:** DTB B308

**Contact:** [fargey@uvic.ca](mailto:fargey@uvic.ca) 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. *It may take up to 48-hrs for a response. Please be patient. If you email on a Friday, do not expect a response until Monday.*

**About Me:** I am an Associate 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.org](http://shannonfargey.org) and follow me on X @fargetmenot

---

## REQUIRED TEXT(S)

We will use a series of Open Educational Resources for this course and posted material on Brightspace.

## EVALUATION

|  |     |
|--|-----|
| Assignments (x 3)                                  | 20% |
| Instrument Practicum* (week of Feb 8 to 15)        | 15% |
| Data Analysis Project ( <i>Group</i> )             | 20% |
| Weather Briefing ( <i>Partner or independent</i> ) | 15% |
| Term Exams (x 2) 15% each (in class)               | 30% |

\*outside class time **REQUIRED** (more information on Brightspace)

Additional information about the evaluation components can be found on Brightspace.

## 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

## UNIVERSITY OF VICTORIA GRADING SYSTEM

As per the Academic Calendar:

| Grade | Grade point value | Grade scale | Description   |
|-------|-------------------|-------------|---|
| A+    | 9                 | 90-100%     | <b>Exceptional, outstanding</b> and <b>excellent</b> 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.         |
| A     | 8                 | 85-89%      |   |
| A-    | 7                 | 80-84%      |   |
| B+    | 6                 | 77-79%      | <b>Very good, good</b> and <b>solid</b> 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. |
| B     | 5                 | 73-76%      |   |
| B-    | 4                 | 70-72%      |   |
| C+    | 3                 | 65-69%      | <b>Satisfactory, or minimally satisfactory.</b> These grades indicate a satisfactory performance and knowledge of the subject matter.   |
| C     | 2                 | 60-64%      |   |
| D     | 1                 | 50-59%      | <b>Marginal</b> Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.   |
| F     | 0                 | 0-49%       | <b>Unsatisfactory</b> 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/](http://uvic.ca/socialsciences/geography/)
- Geography Department Chair: [geogchair@uvic.ca](mailto:geogchair@uvic.ca)
- Geography Undergraduate Advising: [geogadvising@uvic.ca](mailto:geogadvising@uvic.ca)

### BRIGHTSPACE

Brightspace learning management systems (LMS) will serve as the main avenue of communication (<https://www.uvic.ca/systems/services/learningteaching/brightspace/index.php>). Please monitor the page on a regular basis for course announcements. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: [helpdesk@uvic.ca](mailto:helpdesk@uvic.ca), Tel: 250-721-7687

You will find more details about the course and lab schedule on Brightspace.

---

### POLICY ON LATE OR MISSED ASSIGNMENTS/EXAMS

Assignments are due at the assigned time on Brightspace (usually 11:59 pm on a specified date). Late assignments and/or project work will be penalized **20% per day**. Exceptions will only be granted for medical or compassionate reasons. *Only the course instructor can grant exceptions*. When contacting me please let me know what lab section you are in. I will need to notify your TA if an exception is granted.

Exams can only be missed for medical or compassionate reasons. *Only the course instructor can grant exception.* If an exception is granted, the student may be provided at alternate date/time to write the exam. If this date/time is not agreeable for whatever reason the weight of the missed evaluation component will be added to the final exam. If you miss a final exam (regardless of the reason and want the chance to write) you must apply for a Request for Academic Concession through the registrar's office (<https://www.uvic.ca/students/academics/academic-concessions-accommodations/request-for-academic-concession/index.php>).

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

## **POLICY ON ATTENDANCE**

Attendance is expected for lectures and assignment work periods. Recordings of lecture material or laboratory introductions are not provided.

## **ADDITIONAL IMPORTANT COURSE POLICIES**

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.

Unless otherwise stated students are expected to complete assignments and quizzes *independently*.

## **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/calendar/undergrad/info/regulations/academic-integrity.html](http://web.uvic.ca/calendar/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](http://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 ([uvic.ca/services/cal/](http://uvic.ca/services/cal/)). The CAL 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. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavor 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.

## **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](http://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](mailto:svpcoordinator@uvic.ca)

Web: [uvic.ca/svp](http://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](mailto: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](mailto: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 online 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.

Important Dates (UVic Calendar) - <https://www.uvic.ca/calendar/dates/>

Last day for withdrawing from the first term courses without penalty of failure – Feb 29

**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/](http://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/](http://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/](http://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.*

Tentative Schedule - *subject to change*

| Week   | Dates                       | Topics  |
|--|-----------------------------|---|
| 1  | Jan 8<br>Jan 11             | Weather Analysis and Weather Instruments  |
| 2  | Jan 15<br>Jan 18            | Meteorological data, reporting standards  |
| 3  | Jan 22<br>Jan 25            | Spatial representation of met data – surface plots, upper air plots, chart analysis   |
| 4  | Jan 29<br>Feb 1             | Continuation of above topics ...  |
| 5  | Feb 5<br>Feb 8              | Introduction to Assignment 2 – In class work period ( <b>Assignment 1 Due</b> )<br><b>Guest Presenter: Claude Labine – Intro to Campbell Scientific Dataloggers</b> |
| Feb 10* – Instrument Practicum (Saturday 8:30 am - 4:00 pm) - Required |                             |   |
| 6  | Feb 12<br>Feb 14*<br>Feb 15 | <i>(no class on Monday)</i><br><i>Help with instrument take down – outside of class time</i><br><b>Guest Presenter: Claude Labine – Data Dump and Processing</b>    |
| 7  | Feb 19<br>Feb 22            | Reading Break – No classes  |
| 8  | Feb 26<br>Feb 29            | <b>Term Test 1</b><br>Fronts, Jets and Airmasses, Extratropical Cyclones  |
| 9  | March 4<br>March 7          | Continuation of above topics ... ( <b>Assignment 2 Due</b> )<br>Data Analysis Project – check in during class time  |
| 10   | March 11<br>March 14        | Fronts, Jets and Airmasses, Extratropical Cyclones<br>No class – use time for project work (Thursday)   |
| 11   | March 18<br>March 21        | Dynamics – Thermal Circulations   |
| 12   | March 25<br>March 28        | Data Analysis Project in class work period ( <b>Assignment 3 Due</b> )<br>Review (if desired)   |
| 13   | April 1<br>April 4          | Easter Monday – No class<br><b>Term Test 2</b>  |
| 13   | April 8                     | Data Analysis Project Due (end of day) – No class   |