

The University of Western Ontario  
Department of Geography and Environment  
**GEOG 2310A: Weather and Climate**  
Fall 2020

---

## 1. Technical Requirements

Internet connection, computer (desktop or laptop), microphone, webcam

## 2. Course Information

### *Class Information*

**Location:** Fall Online Course

### *Lab Information*

**Time:** Tuesdays 9:30 – 11:30 AM or  
Tuesdays 3:30 – 5:30 PM or  
Wednesdays 4:30 – 6:30 PM

### *Contact Information*

**Instructor:** Mark Moscicki  
**Office:** SSC 2219  
**Office Hours:** By appointment (in-person or virtual)  
**E-mail:** mmoscic@uwo.ca

## 3. Calendar Description

### *Course Description*

Fundamentals of the physical processes underlying weather and climate; radiant energy, energy balances, clouds, atmospheric dynamics and thermodynamics; principles of the greenhouse effect, mid-latitude cyclones and aspects of weather forecasting, severe weather phenomena and atmospheric optics.

2 lecture hours, 2 laboratory hours, 0.5 course weight

Prerequisite: 1.0 course from GEOG 1100, 1300A/B, 1400F/G, 1500F/G, 2131A/B, 2132A/B, 2133A/B, 2142A/B, 2152F/G, 2153A/B or 0.5 course from Mathematics, Applied Mathematics, Calculus, Environmental Science or Physics at 1000-1999 level; or enrolment in the Major in Physical Geography or in an Honours Earth Science Program for Professional Registration.

Prerequisite checking is the student's responsibility.

## *Senate Regulations*

Unless you have either the prerequisites for this course or written special permission from your dean to enrol in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

### **4. Online Textbook**

The MindTap website will be used in this course; this is a comprehensive and interactive site that includes the full electronic version of the textbook listed below.

Ahrens, C., Jackson, P., and Jackson, C. (2016): *Meteorology Today: An Introduction to Weather, Climate, and the Environment* (2<sup>nd</sup> Canadian Edition), Nelson: Toronto, ON.

### **5. Course Objectives**

The objectives of this course are to provide students with:

- an understanding of the fundamental basis of weather and climate phenomena
- an appreciation of the impact of weather and climate on our daily lives
- an introduction to numerical based meteorological problem solving skills
- improved map reading skills and geographic awareness

### **6. Evaluation**

<i>Component</i>	<i>Date</i>	<i>Value</i>
Laboratory Exercises	Weekly	27%
Lesson Review Quizzes	Weekly	10%
MindTap Activities	Weekly	8%
Midterm Exam	Oct 26, 1:00	17%
Final Exam	TBA	38%

Students are responsible for material covered in lessons as well as textbook readings and videos. The midterm exam covers material from Sep 14 through Oct 19. The final exam is cumulative but weighted toward material studied in the second half of the semester. Exams will consist of multiple choice, definition, fill in the blank, short answer, discussion, and weather map analysis questions.

For accommodation policies for medical or non-medical absences from lab exercises, quizzes, MindTap activities, or exams, please see 'Academic Consideration for Any Missed Assessments' in Section 7.

## 7. Accommodation Policies

### Accessible Education

Students with disabilities work with Accessible Education which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).

### Academic Consideration for Missed Assessments

Students will have up to 2 opportunities during the regular academic year to use an online portal to self-report an absence during the term, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students must contact the instructor within 24 hours of the end of the period of self-reported absence. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (December and April)
- absence of a duration greater than 48 hours
- assessments worth more than 30% of the student's final grade
- if a student has already used the self-reporting portal twice during the year

If the conditions for a Self-Reported Absence are not met, students will need to provide a Student Medical Certificate if the absence is medical, or provide appropriate documentation if there are compassionate ground for the absence in question. Students should contact their Faculty academic counselling office to obtain more information.

Students should also note that instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. *All documentation required for absences that are not covered by the Self-Reported Absence policy must be submitted to the Academic Counselling office of a student's home faculty.*

[Policy on Academic Consideration for Student Absences](#)

[Student Medical Certificate](#)

### Religious Accommodation

Students should consult the University's list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the instructor and an academic counsellor if their course requirements will be affected by a religious observance. Additional information is given in the [Western Multicultural Calendar](#).

### Course Grades

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. You are responsible for your grades in the course.

## 8. Make-up Examinations

A make-up exam will be granted with approved documentation only. All documentation for missed exams must be provided to an Academic Counselling Office within 48 hours of the originally scheduled exam and students must notify the instructor of the absence within 48 hours of the originally scheduled exam. Otherwise, a grade of zero on the exam will be assigned. The content of make-up exams will differ from the originally scheduled exam.

## 9. Lesson Schedule

<i>Lecture</i>	<i>Date</i>	<i>Topic</i>	<i>Textbook Chapter</i>
1	Sep 14	Scales and Symbols	Apx B
		The Atmosphere	1
2	Sep 21	Energy	2
		Air Temperature	3
3	Sep 28	Climatic Controls	3
		Atmospheric Moisture	4
4	Oct 5	Clouds and Fog	5
		Stability	6
5	Oct 13	Tephigrams	6
		Precipitation Development	7
6	Oct 19	Precipitation	7
		Air Pressure	8
	Oct 26	Midterm Exam	
7	Nov 9	Winds	8
		Small Scale Winds	9
8	Nov 16	Global Circulation Patterns	10
		Air Masses and Fronts	11
9	Nov 23	Mid-Latitude Cyclones	12
		Weather Forecasting	15
10	Nov 30	Thunderstorms	13
		Tornadoes	14
11	Dec 7	Air Pollution	18
		Weather Forecasting	15

## 10. Laboratory Schedule

There are 9 laboratory exercises; each one will be introduced at the beginning of the laboratory session and is due one week later. Each exercise is worth 3% of your course grade. You are encouraged to complete these during the time allotted in the laboratory classroom of your weekly laboratory session.

<i>Exercise</i>	<i>Date (Tue)</i>	<i>Date (Wed)</i>	<i>Topic</i>
1	Sep 22	Sep 23	Station Symbols
2	Sep 29	Sep 30	Radiation Balances
3	Oct 6	Oct 7	Climate Statistics
4	Oct 13	Oct 14	Atmospheric Moisture
5	Oct 20	Oct 21	Tephigrams
6	Nov 10	Nov 11	Climate Data
7	Nov 17	Nov 18	Winds
8	Nov 24	Nov 25	Surface Map Analysis
9	Dec 1	Dec 2	Severe Weather

## 11. Statements Concerning Online Etiquette

Some components of this course will involve online interactions. To ensure the best experience for both you and your classmates, please honour the following rules:

- Log in on time
- Use a computer or laptop as opposed to a cell phone or tablet
- Ensure that you are in a private location to protect confidentiality of discussions
- To minimize background noise, mute your microphone for the entire class unless you are invited to speak
- Be prepared to turn your video camera off if the internet connection becomes unstable
- Unless invited, do not share your screen during the session

To participate during a session, please consider the following:

- If you wish to speak, use the 'raise hand' function and wait to be acknowledged before beginning your comment or question
- Remember to unmute your microphone and turn on your video camera before speaking
- Self-identify when speaking
- Remember to unmute your microphone and turn off your video camera after speaking (unless directed otherwise)

General considerations of netiquette:

- Keep in mind the different cultural and linguistic backgrounds of your classmates
- Be courteous toward all involved
- Be respectful of the diversity of viewpoints that you may encounter in class. The exchange of diverse ideas and opinions is part of the scholarly environment. ‘Flaming’ is never appropriate.
- Be professional and scholarly in all online postings. Cite ideas of others appropriately.

Note that disruptive behaviour of any type during online sessions, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

## 12. Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a [scholastic offence](#).

*All work in this course must be completed individually.* Sharing answers over internet message boards is an offence. Students found to be doing this are subject to disciplinary measures.

Computer graded multiple choice exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

## 13. Commitment to Accessibility

The Department of Geography and Environment strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities. Please contact the instructor if you require material in an alternate format or if you require any other arrangements to make the course more accessible to you. You may also wish to contact Student Accessibility Services (SAS) at 519-661-2147 for any specific question regarding an accommodation. Information regarding [accommodated exams](#) is available. More information about [accessibility](#) is available as well.

## 14. Mental Health

If you or someone you know is experiencing distress, there are several resources at Western to assist you. Please visit the University’s [Health and Wellness](#) site for more information on mental health resources.

## **15. Support Services**

[Student Support Services](#)

[Student Development Centre](#)

## **16. Important Dates**

Sep 9: Classes begin

Sep 17: Last day to add a first term half course

Oct 12: Thanksgiving Day

Nov 2-6: Fall Reading Week (no classes; department office open)

Nov 12: Last day to drop a first term half course without penalty

Dec 9: Classes end

Dec 10: Study day

Dec 11-22: Examination period