

The University of Western Ontario  
 Department of Geography and Environment  
**GEOG 2310A: Weather and Climate**  
 Fall 2021

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## 1. Course Information

Lecture Delivery Mode	Day and Time	Location
In-person	Thursdays 11:30 AM – 1:20 PM	SSC 2032

Lab Delivery Mode	Day and Time	Location
In-person	Tuesdays 10:30 AM – 12:20 PM	SSC 1004
	Tuesdays 2:30 – 4:20 PM	SSC 1004
	Wednesdays 4:30 – 6:20 PM	SSC 1004



Fall Classes Start	Reading Week	Fall Classes End	Study Day	Fall Final Exams
Sep 8	Nov 1 – Nov 7	Dec 8	Dec 9	Dec 10 – Dec 21

Sep 16: Last day to add a first term half course

Oct 11: Thanksgiving holiday

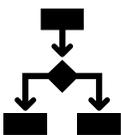
Nov 12: Last day to drop a first term half course without penalty



Course Instructor	Contact Information	Office	Office Hours
Mark Moscicki	mmoscic@uwo.ca	SSC 2219	Thursdays 2:00 – 3:30 PM

## 2. 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 enrollment 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 enroll 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

### **3. Readings**

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> Cdn Edition), Nelson: Toronto, ON.

### **4. Learning 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 abilities and geographic awareness



## 5. Course Format

Attendance at lecture and laboratory sessions is expected. Selected course material will be posted to [OWL](#).

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#). Using the proper browser is important, especially when using different features integrated with OWL.



If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They are also available by phone at 519-661-3800 or ext. 83800.

## 6. Communication



Students should check the course website regularly to keep up with announcements. E-mails to the instructor or to a teaching assistant must be sent from a UWO account and should contain the course code in the subject. E-mails will receive a response within 24 hours on weekdays.

## 7. Evaluation

Students are responsible for material covered in lectures as well as the assigned readings. The midterm exam will cover material studied from Sep 9 through Oct 14. 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.



<i>Component</i>	<i>Date</i>	<i>Value</i>
Laboratory Exercises	Weekly	27%
MindTap Activities	Weekly	8%
Midterm Exam	Oct 21	20%
Final Exam	TBA	45%

### 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.

## Late Assessments

Laboratory exercises submitted late without approved documentation or the submission of a self-reported absence will be subject to a penalty of 10% per day.

## 8. Lecture Schedule

<i>Lecture</i>	<i>Date</i>	<i>Topic</i>	<i>Reading: Chapter</i>
1	Sep 9	Scales and Symbols	Apx B
		The Atmosphere	1
2	Sep 16	Energy	2
		Air Temperature	3
3	Sep 23	Climatic Controls	3
		Atmospheric Moisture	4
4	Sep 30	Clouds and Fog	5
		Stability	6
5	Oct 7	Tephigrams	6
		Precipitation Development	7
6	Oct 14	Precipitation	7
		Air Pressure	8
	Oct 21	Midterm Exam	
7	Oct 28	Winds	8
		Small Scale Winds	9
8	Nov 11	Global Circulation Patterns	10
		Air Masses and Fronts	11
9	Nov 18	Mid-Latitude Cyclones	12
		Weather Forecasting	15
10	Nov 25	Thunderstorms	13
		Tornadoes and Hurricanes	14
11	Dec 2	Air Pollution	18
		Atmospheric Optics	19

## 9. Laboratory Schedule

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

<i>Exercise</i>	<i>Date (Tue)</i>	<i>Date (Wed)</i>	<i>Topic</i>
1	Sep 14	Sep 15	Station Symbols
2	Sep 21	Sep 22	Radiation Balances
3	Sep 28	Sep 29	Climate Statistics
4	Oct 5	Oct 6	Atmospheric Moisture
5	Oct 12	Oct 13	Tephigrams
6	Oct 26	Oct 27	Climate Data
7	Nov 9	Nov 10	Winds
8	Nov 23	Nov 24	Surface Map Analysis
9	Nov 30	Dec 1	Severe Weather

## 10. 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 two 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 final exams scheduled by the Office of the Registrar
- 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 between May and August

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](#).

## **11. 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.

## **12. Continuity of Education Plan**

In the event of a COVID-19 resurgence during the course that necessitates the university to direct courses move away from face-to-face interaction, all remaining course content will be delivered entirely online asynchronously. The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course instructor.

### **13. 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](#).

The course essay is subject to submission for textual similarity review to the commercial plagiarism detection software under license to the university for the detection of plagiarism. All essays submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

For assessments that are completed in pairs, each student must write their own identifying information (name, student number, and signature). Writing someone else's identifying information is an offence; any student who has been found to have done this will receive a grade of zero on the assessment.

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.

### **14. Use of Electronic Devices**

No electronic devices will be permitted during exams.

### **15. 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.

### **16. 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.

### **17. Support Sites**

[Student Support Services](#)  
[Student Development Centre](#)

## **18. Important Dates**

Sep 8: Fall classes resume

Sep 16: Last day to add a first term half course

Oct 11: Thanksgiving Day

Nov 1-7: Fall reading week (no classes; department office open)

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

Nov 30: Last day to drop a full course without academic penalty

Dec 8: Fall classes end

Dec 9: Study day

Dec 10-21: Examination period