

University of Western Ontario
Department of Geography
GEOG 2310A: Weather and Climate
Fall 2015

Instructor:	Mark Moscicki	Lectures:	Thu 11:30 am – 1:20 pm SSC 3022
E-mail:	mmoscic@uwo.ca	Labs:	Tue 2:30 – 4:20 pm Wed 4:30 – 6:20 pm Thu 9:30 – 11:20 am All labs are in SSC 1059
Office:	SSC 2223		
Office Hours:	Wed 3:00 – 5:30 pm		

Overview:

The course is an introduction to the study of the atmosphere and its processes. Various aspects of meteorology and climatology are emphasized including the structure and behaviour of the atmosphere, radiant energy, energy balances, clouds, precipitation processes, atmospheric dynamics and thermodynamics, weather systems, and severe weather.

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 knowledge

Prerequisites:

1.0 course from Geography 1100, 1300A/B, 1400F/G, 1500F/G, 2131A/B, 2153A/B, or the former Geography 020E; or 0.5 course from Mathematics, Applied Mathematics, Calculus, Environmental Science or Physics at the 1000-1999 level; or enrollment in the Major in Physical Geography or in an Honours Earth Science Program for Professional Registration.

Unless you have a proper prerequisite for this course or written special permission from your Dean to enroll in it, you will be removed from the course and it will be deleted from your record. There will be no adjustment to your fees and this decision may not be appealed.

Textbook:

Ahrens, C., Jackson, P., and Jackson, C. (2012): *Meteorology Today: An Introduction to Weather, Climate, and the Environment* (1st Canadian Edition), Nelson: Toronto, Ont.

Schedule:

<i>Lecture</i>	<i>Date</i>	<i>Topic</i>	<i>Reading</i>	
			<i>Chapter</i>	<i>Pages</i>
1	Sep 10	Scales and Symbols	App	A4-A7
		The Atmosphere	1	3-19
2	Sep 17	Radiation	2	33-61
		Air Temperature	3	65-83
3	Sep 24	Climatic Controls	3	83-91
		Atmospheric Moisture	4	99-121
4	Oct 1	Clouds and Fog	5	125-151
		Stability	6	165-183
5	Oct 8	Tephigrams	6	184-187
		Precipitation Development	7	191-211
6	Oct 15	Precipitation	7	211-221
		Air Pressure	8	225-243
	Oct 22	Midterm Exam		
7	Nov 5	Winds	8	244-253
		Small Scale Winds	9	257-289
8	Nov 12	Global Circulation Patterns	10	293-314
		Air Masses and Fronts	11	323-347
9	Nov 19	Mid-Latitude Cyclones	12	351-368
		Weather Forecasting	13	381-407
10	Nov 26	Thunderstorms	14	415-439
		Tornadoes	14	439-453
11	Dec 3	Hurricanes	15	457-483
		Atmospheric Optics	19	593-614

Assessment:

<i>Assessment Method</i>	<i>Value</i>
Laboratory Exercises	36%
Midterm Exam	22%
Final Exam	42%

The midterm exam is one hour in length and covers material from Sep 10 through Oct 15. The final exam is three hours in length and will be scheduled by the registrar's office; it is cumulative thus covering material from the entire course. Exams will consist of multiple choice, fill in the blank, short answer, and discussion questions.

Laboratory Exercises:

There are 9 laboratory exercises; each one will be introduced at the beginning of the lab session and is due one week later. Each exercise is worth 4% of your grade. You are encouraged to complete these during your weekly laboratory session.

Laboratory Schedule:

<i>Exercise</i>	<i>Date (Tue)</i>	<i>Date (Wed)</i>	<i>Date (Thu)</i>	<i>Topic</i>
1	Sep 15	Sep 16	Sep 17	Station Symbols
2	Sep 22	Sep 23	Sep 24	Radiation Balances
3	Sep 29	Sep 30	Oct 1	Climate Indices
4	Oct 6	Oct 7	Oct 8	Atmospheric Moisture
5	Oct 13	Oct 14	Oct 15	Tephigrams
6	Nov 3	Nov 4	Nov 5	Climate Data
7	Nov 10	Nov 11	Nov 12	Winds
8	Nov 17	Nov 18	Nov 19	Surface Map Analysis
9	Nov 24	Nov 25	Nov 26	Severe Weather

Accommodation:

Students seeking academic accommodation on medical grounds for missed assessments must apply to the Academic Counselling office of their home faculty and provide documentation. For the University of Western Ontario policy on accommodation for medical illness and a downloadable Student Medical Certificate, see this link:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Accessibility:

The University of Western Ontario is committed to achieving barrier free accessibility for everyone studying, visiting and working at the university. 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 Services for Students with Disabilities (SSD) at ssd@uwo.ca for any specific questions regarding an accommodation.

Academic Integrity:

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a scholastic offense at this site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Computer marked 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 academic misconduct.

Electronic Devices:

No electronic devices other than calculators will be permitted during examinations.

Mental Health:

If you or someone you know is experiencing distress, there are several resources at the University to assist. Visit this site for more information on mental health resources:

http://www.health.uwo.ca/mental_health/

Support Services:

Registrarial Services: <http://www3.registrar.uwo.ca/index.cfm>

Student Development Services: <http://www.sdc.uwo.ca>