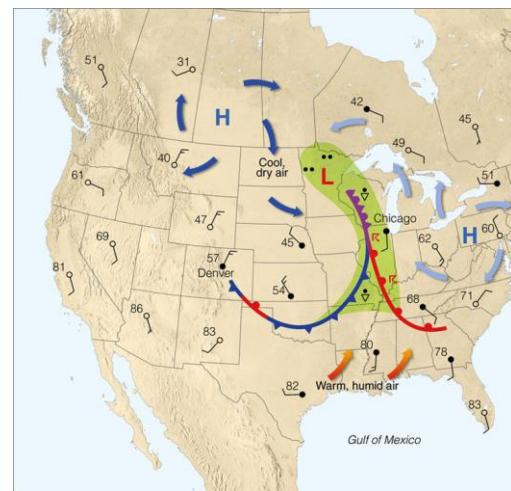


GEOG-2210(3)-001 Meteorology Winter, 2024

January 9th to April 4th 2024



INSTRUCTOR:

Dr. Jacqueline Binyamin

Office: 5L10

Phone: 204 786-9982

E-mail: j.binyamin@uwinnipeg.ca

Office Hours: Tuesday and Thursday (13:00 – 14:00) or by appointment

LECTURES:

Tuesday and Thursday 10:00 – 11:15,
Room CENT 3C30

TEXTBOOK (recommended): Meteorology Today: An Introduction to Weather, Climate, and the Environment (13th edition)

by C. Donald Ahrens and Robert Henson (2022)

Student Edition: ISBN-13: 9780357452073

LAB

L070, Tuesday, 14:30 - 16:20, Room LOCK 5L23

TA

Colleen Mitchell

E-mail: mitchell-c47@webmail.uwinnipeg.ca

COURSE NEXUS:

Use your WebAdvisor User ID and Password.

Login in at <https://nexus.uwinnipeg.ca>

If you are having difficulties with Nexus contact the help desk at 204-786-9149 or servicedesk@uwinnipeg.ca

Please use your University of Winnipeg email address for course related correspondence: name@webmail.uwinnipeg.ca. Students have a responsibility to regularly check their **Nexus e-mail addresses** to ensure timely receipt of correspondence from their course instructor. Emails from others accounts such as Hotmail or Gmail are frequently treated as spam and thus may not reach the recipient. **This course will send emails through NEXUS so please check regularly.**

Office hours are scheduled in **Tuesday and Thursday 13:00 – 14:00**. If these hours are inconvenient, appointment can be arranged. If you have no other alternative but to leave an e-mail, the instructor cannot guarantee an immediate response to your e-mail or phone message.

Please visit the University of Winnipeg's Weather Station webpage at: weatherstation.uwinnipeg.ca

COURSE DESCRIPTION:

This course surveys the causes and characteristics of weather. Fundamental thermodynamic and hydrodynamic principles of atmospheric physics will be reviewed. Common and severe/unusual weather phenomena will be explained, as will be the processes involved in the preparation of weather forecasts.

COURSE OBJECTIVES:

The objective of this course is for students: (1) to gain an appreciation of the thermodynamic and dynamic mechanisms that are responsible for the atmospheric conditions that occur at various times and locations (i.e., the weather), (2) to understand some of the methods of measuring and analyzing weather data, as well as some of the ways in which the atmosphere interacts with the hydrosphere, lithosphere, and the biosphere, and (3) to introduce the methodologies employed in broad-scale weather forecasting, and in the prediction of localized severe convective storms. Students should acquire a better understanding of the weather of the Canadian Prairies.

LABORATORIES:

The labs in Meteorology are considered integral parts of the course and will be presented as such. Therefore, it is the responsibility of the student to attend all scheduled labs and to complete the assignments as required. Information on laboratory procedures will be discussed during the first lab session.

If you are not registered in a lab section, or if you wish to change lab sections, you must contact your lab instructor during the first week of classes. Lab section changes will be considered only if space permits.

It is imperative that all students attend their scheduled lab sections regularly. Labs in this course begin the week of **January 8**. Labs are held in **Room LOCK 5L23**.

GRADING PROCEDURE:

Lab Assignments 30%, Due dates: as specified on each assignment.

Midterm Theory Test 30% (2 Tests at 15% each)

Final Theory and Lab Exam (combined) 40%

Total 100%

Final grades will be assigned on the basis of accumulated scores from the above components.

Letter grades are typically determined using the following numeric groupings as guidelines:

%	90-100	84-89	80-83	75-79	70-74	65-69	55-64	50-54	<50
Grade	A+	A	A-	B+	B	C+	C	D	F

NOTE: The numeric boundaries separating letter grades may be adjusted at the request of the Departmental Review Committee. Grades are not final until approved by the University Senate.

TEST/EXAM POLICY

If you miss a test or exam, you must contact your instructor immediately. Proof of illness or exceptional circumstances is required before alternate arrangements can be made. Vacation travel is not an acceptable reason.

The makeup test/exam will occur **within 5 school days** of the missed date. In the event of illness this deadline will be **within 5 school days** from the “**return to work**” date noted on the medical certificate. It is the student’s responsibility to schedule the makeup exam. Failure to schedule within the defined timeline will result in a grade of zero (0) for that test/exam.

The **Final Theory Exam** must be written as scheduled in the 2023-24 Fall/Winter Timetable; alternate dates will not be considered. If you have a Final Theory Exam conflict (i.e., two final exams on the same date and time), or if exceptional circumstances prevent you from writing the exam as scheduled, you must contact Academic Advising immediately, otherwise, you must write the final exam as scheduled. Please refer to section 9d, of Regulation and Policies in the 2023-24 Course Calendar link: (<http://www.uwinnipeg.ca/index/calendar-calendar>).

Lab Assignments:

Detailed instructions for the assignments as well as marking schemes will be given on Nexus and through lab assignment handouts. All assignments should be submitted on-line through **dropbox** in the **Nexus webpage** and must be completed by individual students. **Assignments sent as email attachments will not be accepted.**

Penalties (For Late Submission of Lab Assignments):

Lab assignments will be accepted until five days after the submission date with 5% of the total mark of the assignment being deducted each day from the mark achieved (weekends and holidays are considered as normal days). Work submitted 6 days late or more will not be accepted.

There will be NO make-up work or bonus material of any kind.

Voluntary Withdrawal

Please note the deadline date for voluntary withdrawal from this course is **Friday, March 15, 2024**. You must formally withdraw from a course. If you simply stop going to classes, you may receive an “F” on your transcript and loss of tuition credit. Students are encouraged to see the instructor before withdrawal to discuss matters pertaining to the grades.

Electronic Device Policy

Please be considerate: **Deactivate** all cellular telephones, personal pagers, watch alarms, and any other device that may emit irritating noises during zoom lectures, including muting your device when not speaking. You may have your video on or off.

Attendance Policy

Students are encouraged to attend all classes and to participate in class discussions. Please note that lectures may cover materials not given in the textbook and in lecture notes.

IMPORTANT DATES:

Tuesday, January 9	First lecture for the 2024 Winter Term.
Tuesday, January 9	First day of Meteorology Lab.
Thursday, February 15 at 10:00	Midterm Theory Test #1.
February 18-24	Reading Week- No lectures or Labs.
Monday, February 19	Louis Riel Day - University closed.
Sunday, March 10	Daylight Saving Time begins – turn your clock 1 hour ahead.
Thursday, March 14 at 10:00	Midterm Theory Test #2.
Friday, March 15	Final date to withdraw without academic penalty. Please note that withdrawing before the VW date does not result in a fee refund.
Tuesday, March 19	Vernal Equinox at 10:06 pm CDT (Sunday, March 20 at 03:06 am UTC/GMT).
Friday, March 29	Good Friday, University closed.
Tuesday, April 4	Last lecture in this course.
April 11-24, 2024	Final Exam Period
Final Theory and Lab Exam (Date TBA)	Please check http://www.uwinnipeg.ca/exam-schedules/ for final exam schedule

Course Subjects and Readings:

The following table outlines the topics to be covered during the lectures. The order of presentation is subject to change as circumstances dictate and all the topics listed may not be covered. Any changes will be announced in class.

Topics	Readings from the Textbook
Introduction to Meteorology	
The Earth and Its Atmosphere: Composition and Vertical Temperature Structure, Heating/Cooling	Ch. 1, 2
Thermodynamic State of Air (Temperature, Pressure and Density)	
Ideal Gas Law, Hydrostatic Equilibrium, Hypsometric Equation	
The Atmosphere of Other Planets	
Energy: Warming the Earth and The Atmosphere	
Global Radiation Budget	Ch. 2, 3
Seasonal and Daily Temperature Variations	
Atmospheric Humidity Indices	
Condensation	Ch. 4, 5, 6
Atmospheric Stability and Cloud Development	
Thermodynamic Charts- Tephigrams	
Precipitation and Snowfall	Ch. 7
Air Pressure, Forces and Winds	Ch. 8
Winds: Small Scale and Local Systems	Ch. 9, 10
Winds: Global Scale	
Air Masses, Fronts and Mid-Latitude Cyclones	Ch.11, 12
Weather Forecasting	Ch.13
Severe Storms: Thunderstorms, Tornadoes and Hurricanes	Ch. 14, 15
Exam Review (Theory and Lab exam)	

ACADEMIC REGULATIONS AND POLICIES

1. A permitted or necessary change in mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams.
2. Students can find answers to frequently asked questions related to remote learning here: <https://www.uwinnipeg.ca/covid-19/remote-learning-faq.html>.
3. When it is necessary to cancel a class due to exceptional circumstances, every effort will be made to inform students via UWinnipeg email and in Nexus.
4. Students have the responsibility to regularly check their UWinnipeg e-mail addresses to ensure timely receipt of correspondence from the University and/or their course instructors (j.binyamin@uwinnipeg.ca).
5. Please note that withdrawing before the VW date does not necessarily result in a fee refund.
6. Students may choose not to attend classes or write examinations on holydays of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide opportunity for students to make up work or examinations without penalty. A list of religious holidays can be found in the 2023-24 Undergraduate Academic Calendar: <https://www.uwinnipeg.ca/academics/calendar/docs/important-notes.pdf> 13.
7. Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams or during lectures/laboratories are encouraged to contact Accessibility Services (AS) at 204-786-9771 or <https://www.uwinnipeg.ca/accessibility-services/> to discuss appropriate options. All information about a student's disability or medical condition remains confidential.
8. Reference to the appropriate items in the Regulations & Policies section of the *Course Calendar*, including Senate appeals and academic misconduct (e.g. plagiarism, cheating) <https://www.uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf> Instructors should become familiar with the procedures for dealing with alleged academic misconduct at <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf>
9. All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found at <https://www.uwinnipeg.ca/respect/>.
10. **Regulations, Policies, and Academic Integrity.** Students are encouraged to familiarize themselves with the Regulations and Policies found in the University Academic Calendar at <https://www.uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf>. Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals), and 10 (Grade Appeals). Please emphasize the importance of maintaining academic integrity and the potential consequences of engaging in plagiarism, cheating, and other forms of academic misconduct. Even unintentional plagiarism, as described in the UW Library video tutorial

“Avoiding Plagiarism” (<https://www.youtube.com/watch?v=UvFdxRU9a8g>), is a form of academic misconduct. Similarly, uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) is a form of misconduct, as it involves aiding and abetting plagiarism.

Important information is outlined in the Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/policies/docs/policies/academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/policies/docs/procedures/academic-misconduct-procedures.pdf>.

11. Respectful Learning Environment. Students are expected to conduct themselves in a respectful manner on campus and in the learning environment irrespective of platform being used. Behaviour, communication, or acts that are inconsistent with a number of UW policies could be considered non-academic misconduct. See the Respectful Working and Learning Environment Policy (<https://www.uwinnipeg.ca/respect/respect-policy.html>) and Acceptable Use of Information Technology Policy <https://www.uwinnipeg.ca/policies/docs/policies/acceptable-use-of-information-technology-policy.pdf>. More detailed information is outlined in the Non-Academic Misconduct Policy and Procedures (<https://www.uwinnipeg.ca/policies/docs/policies/student-non-academic-misconduct-policy.pdf> and <https://www.uwinnipeg.ca/policies/docs/procedures/student-non-academic-misconduct-procedures.pdf>).

12. Copyright and Intellectual Property. Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor/presenter before, for example, photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor’s intellectual property rights could face serious consequences pursuant to the Academic Misconduct or NonAcademic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright policy <https://copyright.uwinnipeg.ca/basics/copyright-policy.html>

13. Academic Integrity and AI Text-generating Tools.

Students must follow principles of academic integrity (e.g., honesty, respect, fairness, and responsibility) in their use of material obtained through AI text-generating tools (e.g., ChatGPT, Bing, Notion AI). If an instructor prohibits the use of AI tools in a course, students may face an allegation of academic misconduct if using them to do assignments. If AI tools are permitted, students must cite them. According to the MLA(<https://style.mla.org/citing-generative-ai/>), “you should

1. cite a generative AI tool whenever you paraphrase, quote, or incorporate into your own work any content (whether text, image, data, or other) that was created by it
2. acknowledge all functional uses of the tool (like editing your prose or translating words) in a note, your text, or another suitable location

3. take care to vet the secondary sources it cites” If students aren’t sure whether or not they can use AI tools, they should ask their professors.

14. Research Ethics. Students conducting research interviews, focus groups, surveys, or any other method of collecting data from any person, including a family member, must obtain research ethics approval before commencing data collection. Exceptions are research activities done in class as a learning exercise. For submission requirements and deadlines, see <http://www.uwinnipeg.ca/research/human-ethics.html>

15. Privacy. Students are reminded of their rights in relation to the collecting of personal data by the University (<https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>), especially if Zoom is being used for remote teaching (<https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>) and testing/proctoring (<https://www.uwinnipeg.ca/privacy/zoom-test-and-exam-proctoring.html>).

16. Indigenous Student Services. Indigenous students seeking additional supports, academic or other, are encouraged to contact the Aboriginal Student Services Centre (ASSC). The ASSC offers a variety of support services, and was created to maintain a safe, educational and culturally sensitive environment for all Aboriginal students (First Nation, Metis and Inuit) as they pursue their academic studies at The University of Winnipeg. More information can be found at: <http://www.uwinnipeg.ca/assc/>.

17. Scent-Free Environment. U Winnipeg promotes a scent-free environment. Please be respectful of the needs of classmates and the instructor by avoiding the use of scented products should you attend lectures in person. Exposure to perfumes and other scented products (such as lotion) can trigger serious health reactions in persons with asthma, allergies, migraines or chemical sensitivities.