

GEOG/ENST 2331 – Climatology (W24)

COURSE SYLLABUS

Instructor: Jason Freeburn; jason.freeburn@lakeheadu.ca; 8073438010 ext.7890

Graduate Assistant: Logan Marks; lmarks@lakeheadu.ca

Course Objectives:

This course gives a general introduction to meteorology and climatology. Meteorology topics include energy balance, moisture and cloud development in the atmosphere, atmospheric dynamics, small- and large-scale circulations, storms and cyclones, and weather forecasting. Climatology topics include the interaction between the atmosphere and oceans over long time periods, climate classification, and the potential for climatic change.

Text: Ahrens, Jackson and Jackson, 2016. *Meteorology Today, 2nd Canadian Edition* (Toronto: Nelson Education Ltd).

Lecture Times and Place: Monday and Wednesday: 1:30 – 2:30 pm; RC-2003

Manual: There is no formal course manual. Lab content, necessary data or links, exercise instructions and lab deliverables will be posted to the course D2L site.

Lab Times and Place: Wednesday: 10:30 am – 12:30 pm (W1 Section), ATAC-3001
OR Wednesday: 2:30 pm – 4:30 pm (W2 Section), ATAC-3001

Evaluation Scheme and Lab Schedule:

Session	Date	Mark Allocation
Lab Introduction and Wx Station Setup	January 10th	2
Optional Lab Prep Exercise and Discussion #1	January 17th	3
Lab 1 – Global Energy Budget	January 24th	5
Lab 2 – Isotherms, Isobars, and Wx Analysis (D, J)	January 31st	6
Lab 3 – Atmospheric Mechanics	February 7th	5
Lab 4 – Adiabatic Lapse Rates and Atmospheric Stability	February 14th	5
Midterm	February 28th	20
Lab 5 – Weather Observation Project and Wx (F)	Feb. 28th/Mar. 6th	15
Discussion #2	March 20th	2
Lab 6 – Climate Classification	March 27th	4
Lab Quiz	April 3rd	8
Final Examination	TBD	25

Lecture Schedule (*subject to revisions*):

Dates	Monday	Wednesday
January 8/10	Introduction to Climatology	Atmosphere Chapter 1
January 15/17	Radiation and Energy (via Video) Chapter 2	Discussion #1
January 22/24	Seasons (Temperature and Time) Chapters 2 & 3	Temperature and Geography Chapter 3
January 29/31	Pressure Gradients Chapter 8	Forces and Winds Chapter 8
February 5/7	Moisture in the Atmosphere Chapters 4 & 5	Atmospheric Stability Chapter 6
February 12/14	Cloud Formation Chapters 5 & 6	Precipitation Chapter 7
February 19/21	STUDY WEEK	
February 26/28	Review for midterm Chapters 1 – 8, Labs 1 - 4	Midterm
March 4/6	Atmospheric Circulations Chapters 9 & 10	Global Circulations Chapters 10 & 12
March 11/13	Air Masses and Fronts Chapter 11	Midlatitude Cyclones Chapter 12
March 18/20	Thunderstorms and Tornadoes Chapter 13	Hurricanes/Discus sion #2 Chapter 14
March 25/27	Hurricane Forecasts and Polar Chapters 14 and 12	Climate Classification Chapter 16
April 3/9	Global Climatic Change Chapter 17	Final Exam Review

Relevant University/Faculty/Course Policies

- The [Code of Student Behaviour and Disciplinary Procedures](#) also known as The Code),
- Attendance is expected for each lecture and lab unless communicated with the instructor ahead of time,
- Participation is expected in all class discussions, group work and collaborative efforts.

Regulations – General Information from the [Academic Calendar](#)

“It is the responsibility of each student registered at Lakehead University to be familiar with, and comply with all the terms, requirements, regulations, policies and conditions in the Lakehead University Academic Calendar. This includes, but is not limited to, Academic Program Requirements, Academic Schedule of Dates, University and Faculty/School Policies and Regulations and the Fees and Refund Policies and Schedules.”

Collaboration/Plagiarism

Plagiarism is defined in [University Regulation IX](#) with additional examples in Article I, Section 1 of The Code. Sanctions associated with Academic Misconduct are defined in Article II of The Code and Enforcement Procedures are outlined in Article III of The Code.

Students wishing to learn more about Academic Misconduct are encouraged to read the [University and relevant Faculty Regulations](#) and The Code (noted above) and access other resources on the [Teaching Commons](#) website.

Supports for Students – there are many resources available to support our students. These include but are not limited to:

- [Health and Wellness](#)
- [Student Success Centre](#)
- [Student Accessibility Centre](#)
- [Library](#)
- [Academic Support Zone](#) (Writing and Math Tutoring Centre)

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please contact Student Accessibility Services <http://studentaccessibility.lakeheadu.ca> (SC0003, 343-8047 or sas@lakeheadu.ca)