

GEOG/ENST 2331, Winter 2017

INTRODUCTION TO CLIMATOLOGY

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Lab Instructor: Jason Freeburn Office: RC 2004 jtfreebu@lakeheadu.ca

Course Objectives

This course gives a general introduction to meteorology and climatology. Meteorology topics include energy balance in the atmosphere, 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* (Nelson Education).

Manual: Cornwell and Freeburn, 2016. *Climatology Manual*.

Evaluation Scheme and Schedule:

Lab 0	Jan. 16/17	0
Lab 1	Jan. 23/24	4
Lab 2	Feb. 6/7	4
Lab 3	Feb. 13/14	4
Lab 4	Feb. 27/28	4
Midterm	Mar. 1	15
Lab 5 – Lab Quiz	Mar. 6/7	8
Lab 6 – Group Project*	Mar. 13/14 & 20/21	8
Lab 7	Apr. 3/4	4
Weather Week	TBA	4
Final Examination	TBA	45

Lecture Times and Place

Monday and Wednesday: 4:30 – 5:30 (RC 2003)

Lab Times and Place

Monday: 2:30 – 4:30 / Tuesday: 8:30 – 10:30 (RC 2003)

*Group project labs will be in ATAC 3009

GEOG/ENST 2331 Course Schedule: W17 (subject to changes)

Dates	Monday	Wednesday
January 9 & 11	Introduction Chapter 1	The Atmosphere Chapter 1
January 16 & 18	Radiation and Energy Chapter 2	Global Energy Balance Chapter 2 and Lab 1
January 23 & 25	Temperature and Time Chapters 2 & 3	Temperature and Geography Chapter 3
January 30 & February 1	Pressure Gradients Chapter 8 and Lab 2	Forces and Winds Chapter 8 and Lab 3
February 6 & 8	Moisture in the Atmosphere Chapter 4	Atmospheric Stability Chapter 6 and Labs 4 & 5
February 13 & 15	Cloud Formation Chapters 5 & 6	Precipitation Chapter 7
February 27 & March 1	Midterm Review	MIDTERM
March 6 & 8	Atmospheric Circulations Chapter 9 and Lab 6	Global Circulations Chapter 10 and Lab 6
March 13 & 15	Air Masses and Fronts Chapter 11 and Lab 6	Midlatitude Cyclones Chapter 12 and Lab 6
March 20 & 22	Thunderstorms and Tornadoes Chapter 13	Hurricanes Chapter 14
March 27 & 29	Weather Observations Chapter 15	Climate Classification Chapter 16 and Lab 7
April 3 & 5	Weather Forecasting Chapter 15	Global Climatic Change Chapter 17
