

GEOG/ENST 2331, Winter 2015

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, 2012. *Meteorology Today, 1st Canadian Edition* (Nelson Education).

Manual: Cornwell and Freeburn, 2014. *Climatology Manual*.

Evaluation Scheme and Schedule:

Lab 0	Jan. 12/15	0
Lab 1	Jan. 19/22	4
Lab 2	Feb. 2/5	4
Lab 3	Feb. 9/12	4
Lab 4	Feb. 23/26	4
Midterm	Feb. 25	15
Lab 5 – Lab Quiz	Mar. 2/5	7
Lab 6 – Group Project*	Mar. 9/12 & 16/19	8
Lab 7	Mar. 30/Apr. 2	4
Final Examination	TBA	50

Lecture Times and Place

Monday and Wednesday: 2:30 – 3:30 (BB 1075)

Lab Times and Place

Monday: 3:30 – 5:30 / Thursday: 2:30 – 4:30 (RC 2003)

*Group project labs will be in ATAC 3009

GEOG/ENST 2331 Course Schedule: W15 (subject to changes)

Dates	Monday	Wednesday
Jan 5 & 7	Introduction Chapter 1	The Atmosphere Chapter 1
Jan 12 & 14	Radiation and Energy Chapter 2	Global Energy Balance Chapter 2 and Lab 1
Jan 19 & 21	Temperature and Time Chapters 2 & 3	Temperature and Geography Chapter 3
Jan 26 & 28	Pressure Gradients Chapter 8 and Lab 2	Forces and Winds Chapter 8 and Lab 3
Feb 2 & 4	Moisture in the Atmosphere Chapter 4	Atmospheric Stability Chapter 6 and Labs 4 & 5
Feb 9 & 11	Cloud Formation Chapters 5 & 6	Precipitation Chapter 7
Feb 23 & 25	Midterm Review	MIDTERM
Mar 2 & 4	Atmospheric Circulations Chapter 9 and Lab 6	Global Circulations Chapter 10 and Lab 6
Mar 9 & 11	Air Masses and Fronts Chapter 11 and Lab 6	Midlatitude Cyclones Chapter 12 and Lab 6
Mar 16 & 18	Thunderstorms and Tornadoes Chapter 14	Hurricanes Chapter 15
Mar 23 & 25	Hurricane Forecasts and Polar Lows Chapters 15 & 12	Climate Classification Chapter 17 and Lab 7
Mar 30 & Apr 1	Global Climatic Change Chapter 16	Characteristics of Global Warming Chapter 16
