

GEOG/ENST 2331 Climatology Winter 2018 Course Outline

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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, 1st Canadian Edition (Nelson Education).

Manual: Cornwell, Freeburn, Saunders 2018. *Climatology Manual*.

Lecture Times and Place: Monday and Wednesday: 8:30 – 9:30 (RC 2003)

Lab Times and Place: Tuesday: 10:30 – 12:30 / Thursday: 2:30 – 4:30 (RC 2003)
*Lab 7 sessions will be in ATAC 3009

Evaluation Scheme and Schedule:

Lab 0	Jan. 16/18	0
Lab 1	Jan. 23/25	5
Lab 2	Jan. 30/Feb. 1	5
Lab 3	Feb. 6/8	5
Midterm	Feb. 14	20
Lab 4	Feb. 27/Mar. 1	5
Lab 5 – Lab Quiz	Mar. 6/8	7
Lab 6	Mar. 13/15	8
Lab 7 – Group Project*	Mar. 20/22 & Mar. 27/29	5
Final Examination	TBA	40

***Lab 7 sessions will be in ATAC 3009**

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(continued)

Lecture Schedule (*subject to revisions*):

Dates	Monday	Wednesday
Jan 8 & 10	Introduction Chapter 1	The Atmosphere Chapter 1
Jan 15 & 17	Radiation and Energy Chapter 2	Global Energy Balance Chapter 2
Jan 22 & 24	Temperature and Time Chapters 2 & 3	Temperature and Geography Chapter 3
Jan 29 & 31	Pressure Gradients Chapter 8	Forces and Winds Chapter 8
Feb 5 & 7	Moisture in the Atmosphere Chapter 4 & 5	Atmospheric Stability Chapter 6
Feb 12 & 14	Cloud Formation Chapters 5 & 6 Midterm Review – end of class	MIDTERM
Feb 26 & 28	Precipitation Chapter 7	Atmospheric Circulation Chapter 10
Mar 5 & 7	Global Circulation Chapter 10	Air Masses and Fronts Chapter 11
Mar 12 & 14	Mid-latitude Cyclones Chapter 12	Thunderstorms and Tornadoes Chapter 13
Mar 19 & 21	Hurricanes and Typhoons Chapter 14	Forecasts Chapters 15 & 14
Mar 26 & 28	Climate Classification Chapter 17	Global Climatic Change Chapter 16 & 17
Apr 2 & 4	Global and Region Climate Change Chapter 17	Review