

GEOG272: Introduction to Climatology and Hydrology

Instructor: Dr. David Atkinson _____

Office hours: T,W 2:30 – 3:30 (my office: SSM/David Turpin Bldg. B120)

Lectures: T, W 12:30 – 13:20 SSM/David Turpin Bldg. A102

Labs: W 8:30 – 10:20 (A01) – SSM/David Turpin Bldg. B303 (CRN: 11745)

W 16:30 – 18:20 (A02) – SSM/David Turpin Bldg. B307 (CRN: 11746)

Th 14:30 – 16:20 (A03) – SSM/David Turpin Bldg. B311 (CRN: 11747)

F 8:30 – 10:20 (A04) – SSM/David Turpin Bldg. B307 (CRN: 11748)

Lab instructors: Norman Shippee, Chris Krasowski

Introduction:

Weather, climate, and the movement of water in its cycle have important impacts on our lives and activities. The weather influences our daily activities and extreme events can have catastrophic consequences the effects of which are felt for years after the disaster. Periodic severe flooding in the Prairies, powerful storms of the North Pacific, the Gulf of Mexico hurricanes in 2005, and the climate anomalies associated with El Niño are prime examples of these impacts. The climate of a region determines, in part, the types of vegetation present, the nature of the soils and landforms, potential agricultural activity, the form of our cities, and simply how we live our lives. Hydrological concerns likewise touch us all – the Prairie rivers that gain some of their flow from diminishing Rockies glaciers, or the water shortages the east side of Van Isle can experience, such as 2012 and 2014. As well as being influenced by it, human activities can influence the atmosphere and hydrosphere – I think weBT1 0 0 1 82.584 45T1 0 0 14 0 0 1 430.73 417.74 4(a)4(s)] TE19(n)20()-9(

Specific Objectives:

1. Describe the vertical structure, composition, and broad patterns of the earth's atmosphere and climate system and account for these patterns in terms of thermodynamics and geographic controls.
2. Explore how to apply the laws of physics to analyze this system, and study the methodology of modern climatology.
3. Examine methods to analyze climatic data, including improving your use of a spreadsheet.
4. Learn how to use Canadian and US federal weather forecast products.
5. Learn about the role of water in the atmosphere and begin exploration of how water moves in the ground and over land, setting the stage for more detailed work in hydrology.
6. This course has a laboratory component that will emphasize essential physical and chemical concepts as they relate to consideration of atmospheric phenomena using methods of direct physical experimentation. We will also conduct some analyses of climate data during the lab sessions, to introduce ideas of data reduction and data set description, both fundamental practices in atmospheric sciences of any stripe.

General Course Subjects:

1. Atmospheric composition

Undergraduate Grading**

<i>Passing Grades</i>	<i>Description</i>
A+ A A-	Exceptional, outstanding and excellent performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
B+ B B-	Very good, good and solid performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
C+ C	Satisfactory, or minimally satisfactory. These grades indicate a satisfactory performance and knowledge of the subject matter.
D	Marginal Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
COM	Complete (pass). Used only for 0-unit courses and those credit courses designated by the Senate. Such courses are identified in the course listings.

** As stated in the 2009-2010 Calendar

A+