

GEOG 2630L - Weather Lab

Fall 2026 Syllabus, Section 02, CRN 40404,

Credit hours: 1

Instructor

Dawna Cerney

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Public Instructor Information

Instructor Title: Dr.

Instructor Professional Qualifications:

Ph. D., Environmental Geography, Texas State University

Master's, Environmental Design, University of Calgary

Bachelor's, BS Geography, University of Lethbridge

Associate, Engineering Design, Lethbridge Community College

Instructor Office Location: DeBartolo 416

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Course Description

2630L. Weather Lab. Students observe, collect and analyze atmospheric data, and determine and predict weather conditions. Atmospheric laws and meteorological principles, concepts, and processes are investigated using the scientific method. Weekly investigations are undertaken in this hybrid lab encompassing in-class and online instructions. The class meets in person as needed for guidance. Optional lab to accompany GEOG 2630: Weather. Prereq.: GEOG 2630 or concurrently with GEOG 2630. 1 s.h.

The Weather Laboratory is a hands-on companion to the Weather (Geog 2630) lectures and are designed to reinforce the concepts presented in that course. Through field observations, weather instrument measurements, map interpretation, data analysis, laboratory experiments, and the use of meteorological technologies, students investigate the processes that control Earth's atmosphere and weather systems. Students develop practical skills in collecting, analyzing, and interpreting atmospheric data while examining topics such as temperature, air pressure, humidity, clouds, precipitation, air masses, weather fronts, severe weather, and climate patterns. Emphasis is placed on scientific inquiry, critical thinking, and the application of meteorological principles to real-world environmental issues and weather events.

The course presents science-based frameworks and evidence used within the disciplines of geography and weather. The instructor does not seek to challenge personal beliefs or alternative ways of understanding the Earth, nor to persuade students that scientific explanations are the only valid perspectives.

*This is a geography course

"The (Geography) Degree helps develop a whole range of employability skills including numeracy, teamwork through regular field trips, analytical skills in the lab and a certain technical savviness through using various specialist computing applications. Also, the subject area in itself cultivates sensitivity. Those all potentially help a geographer to stand out in the labor market." (White 2010)

"Moreover, a national 2018 survey of employers found that only around 40 percent say that recent college graduates exhibit professionalism, a good work ethic, and have decent oral and written communication, and only 33 percent say that recent graduates possess leadership skills. This is particularly concerning given that soft skills and their combination with technical skills are becoming more important than ever." (Christos Makridis, 2020)

Course Readings

Group	Title	Author	ISBN
Required	Introduction. In Physical geography lab manual: The atmosphere and biosphere	Pidwirny, M.	
Required	Introduction to meteorology: An OER laboratory manual	Soriano, Z. J.	

The following laboratory manuals are is used in this course:

Pidwirny, M. (2021). *Introduction. In Physical geography lab manual: The atmosphere and biosphere*. BCcampus Pressbooks. <https://pressbooks.bccampus.ca/physgeoglabmanual1/front-matter/introduction/>

and

Soriano, Z. J. (n.d.). *Introduction to meteorology: An OER laboratory manual*. Pressbooks. <https://saalck.pressbooks.pub/meteorologylab-wku/>

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Syllabus	Introduction to Weather	Due: 8/31, 11:59pm - Syllabus Quiz
8/31	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 1	Lab 1 - EARTH-SUN RELATIONSHIPS AND INSOLATION RECEIPT	Due: 8/31, 11:59pm - Syllabus Quiz
9/7	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 2 Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 2	Lab 2 - HEAT AND TEMPERATURE IN THE ATMOSPHERE	Due 9/7, 11:59pm - Lab 1 - EARTH-SUN RELATIONSHIPS AND INSOLATION RECEIPT
9/14	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 3	Lab 3 - AIR TEMPERATURE	Due 9/14, 11:59pm - Lab 2 - HEAT AND TEMPERATURE IN THE ATMOSPHERE
9/21	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 3	Lab 4 - ATMOSPHERE COMPOSITION, PRESSURE, AND CIRCULATION	Due 9/21, 11:59pm - Lab 3 - AIR TEMPERATURE
9/28	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 8	Lab 5 - ATMOSPHERIC MOISTURE AND PRECIPITATION	Due 9/28, 11:59pm - Lab 4 - ATMOSPHERE COMPOSITION, PRESSURE, AND CIRCULATION
10/5	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 4	Lab 6 - HUMIDITY, CONDENSATION, AND CLOUDS	Due 10/5, 11:59pm - Lab 5 - ATMOSPHERIC MOISTURE AND PRECIPITATION
10/12	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 5	Lab 7 - CLOUD DEVELOPMENT AND PRECIPITATION	Due 10/12, 11:59pm - Lab 6 - HUMIDITY, CONDENSATION, AND CLOUDS
10/19	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 6	Lab 8 - AIR PRESSURE AND WINDS	Due 10/19, 11:59pm - Lab 7 - CLOUD DEVELOPMENT AND PRECIPITATION
10/26	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 7	Lab 9 - ATMOSPHERIC CIRCULATIONS	Due 10/26, 11:59pm - Lab 8 - AIR PRESSURE AND WINDS



11/2	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 4	Lab 10 - MID-LATITUDE CYCLONES, WEATHER MAPS, AND FORECASTING	Due 11/2, 11:59pm - Lab 9 - ATMOSPHERIC CIRCULATIONS
11/9	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 9	Lab 11 - WEATHER FORECASTING	Due 11/9, 11:59pm - Lab 10 - MID-LATITUDE CYCLONES, WEATHER MAPS, AND FORECASTING
11/16	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 10	Lab 12 - THUNDERSTORMS AND TORNADOES	Due 11/16, 11:59pm - Lab 11 - WEATHER FORECASTING
11/23	Introduction to Meteorology: An OER Laboratory Manual by Zachary J. Suriano Lab 11	Lab 13 - HURRICANES	Due 11/23, 11:59pm - Lab 12 - THUNDERSTORMS AND TORNADOES
11/30	Physical Geography Lab Manual: The Atmosphere and Biosphere by Michael Pidwirny Lab 5	Lab 14 - CLASSIFICATION OF GLOBAL CLIMATES	Due 11/30, 11:59pm - Lab 13 - HURRICANES
12/7	Final Exam Week	None	Due 12/07, 11:59pm - Lab 14 - CLASSIFICATION OF GLOBAL CLIMATES

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.