

PGEOG 1300-3L02
Monday 6-7:50pm
Weather and Climate Laboratory Syllabus
Hunter North, Room 1028
Fall 2022



Instructor: Prof. Rashkova
Office: HC North, 1032
Office Hours: Monday 5:00-6:00 PM by appointment
E-mail: ar9108@hunter.cuny.edu (please include PGEOG in the subject line along with your full name as it appears in CUNYFirst)

Brief description/purpose of course:

This is the lab section of the PGEOG 13000 course which has both a lecture and a lab component worth in total 4.0 credits (5 hours). The course fulfills the Hunter Common Core Section C. Life and Physical Sciences and the General Education Requirements GER 2/E (Natural Science). There are no prerequisites. The course (both lecture and lab) provides an introduction to meteorology and atmospheric sciences. It focuses on the structure and composition of the atmosphere and the elements that are central to understanding its behavior, such as pressure, humidity, and temperature. The course examines the development of a variety of weather phenomenon, such as cloud formation, fronts, storm systems and severe weather, and reviews basic weather forecasting and analysis techniques. The course explores short- and long-term climate processes and their impact on the environment and people. The course also demonstrates how different regions of the world have been and will be impacted by climate change in the past, present and future. This is a laboratory science course and the concepts covered in lecture will be demonstrated with hands-on and technology-based activities using a variety of exercises, observations, and experiments. In the labs we will be using some basic mathematical formulas and calculations and students are expected to have a basic understanding of mathematics through algebra.

Course Objectives:

Successful students:

1. Describe, explain, and appreciate the interconnected nature of the Earth systems through effective oral and written communication.
2. Recognize the interaction between the elements of the atmosphere, including a) the composition and the structure of the atmosphere; b) the atmospheric and oceanic circulation processes, and fronts, storm systems and severe weather; c) interpret methods of weather forecasting and create basic weather maps.
3. Distinguish, analyze, and evaluate climate processes and how they relate to the past, present and future climate, and their impact on biogeography, including a) current technology and science in predicting meteorological outcomes; b) natural and anthropogenic climate change; c) the impact created by shifts in climate zones.

Required textbook:

Lab Manual: Greg Carbone, Exercises for Weather and Climate, 9th ed. Pearson, 2016 ISBN10: 0134041364, ISBN-13: 9780134041360

You may bring in a hardcopy of the lab or the e-text version (must be able to write/draw on device). The e-text is not recommended if you want to print a hardcopy of each lab due to alignment and other printing errors.

The lab text is on reserve in the library (Call Number: QC981 .C34 2016). You can photocopy and use this as long as there is no writing in it.

COURSE STRUCTURE and POLICIES

All materials will be available on the **Hunter College Blackboard** site and further explained in class.

- Laboratory Preparation: Come to class prepared. Please read the laboratory exercise listed for each class prior to the beginning of that class period. Laboratory exercises are complex, and if you do not read them before class you will have difficulty turning them in on time.
- You will complete the **lab exercises** in the lab manual for each lab and submit a file via Blackboard (as a WORD/PPT/PDF document including all the figures that you refer to) with an introduction and conclusion in your own words. A link will be available in each module for you to submit your lab exercise.
- Grading of your laboratory exercises will be based on the quality and accuracy of the observations, explanations, answers to questions and conclusions. The grading of your laboratory exercises will be as follows: 5=excellent, 4=good, 3=fair, 2=poor, 1=terrible, 0=not handed in.
- Late submissions are accepted (up to one week after due date) with a 20% grade reduction.

Course evaluation/grading:

- Lab exercises 80%
- Class Participation 20%

This is a combined course, including both lecture and lab (Lecture: Prof. Allan Frei) Please see your lecture syllabus for more details. Your Lab grade is 30% of your final (combined) grade.

Participation is a very important part of your final course grade. It can include anything from asking questions and participating in class discussions during the lecture and lab.

Syllabus Changes

Except for changes that affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. All changes will be announced on Blackboard, by email, and/or in class.

As per CUNY, an **Unofficial Withdraw (WU)** is assigned to students who **attended a minimum of one class**. It is important to understand the definition of a WU and the difference between this grade and an F grade. The conditions for assigning the WU grade include:

1. A student's enrollment has been verified by the course instructor, and
2. The student has severed all ties with the course at any time before the final exam week and, consequently, has failed to complete enough course work -- as specified in the course syllabus -- to earn a letter grade, and
3. The student has not officially withdrawn from the course by completing the process for a W grade, or made arrangements to receive an INC.

Hunter College statement on Academic Integrity: Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations.

ADA Policy: In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212)772-4857 or (212)650-3230.

Hunter College Policy on Sexual Misconduct In compliance with the CUNY Policy on Sexual Misconduct, Hunter College affirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationship. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, on contacting the College's Public Safety Office (212-772-4444)
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

Please feel free to contact me if you have any questions or concerns about the course and any circumstances that may arise throughout the semester. I would like to promote open communication both in and outside the classroom as well as a respectful, welcoming, and productive classroom environment.

Tentative Schedule for Fall 2022

*** This schedule may be altered slightly during the course of the semester ***

WEEK	DATES	TOPIC/ACTIVITY
1	Aug. 29	Introduction, Materials/ Responsibilities, Prelab (1A)
2	Sept. 5	NO CLASSES SCHEDULED
3	Sept. 12	LAB 1: Vertical Structure of Atmosphere
4	Sept. 19	LAB 3: Surface Energy Budget
5	Sept. 26	NO CLASSES SCHEDULED
6	Sept. 29	LAB 4 : Global Energy Budget
7	Oct. 3	LAB 5: Atmospheric Moisture
8	Oct. 10	NO CLASSES SCHEDULED
9	Oct. 17	LAB 6: Saturation and Atmospheric Stability
10	Oct. 24	Review/Discussion/ Hunter Green Roof
11	Oct. 31	LAB 9: Weather Map Analysis
12	Nov. 7	LAB 10: Mid Latitude Cyclones
13	Nov. 14	LAB 12: Thunderstorms and Tornados
14	Nov. 21	LAB 13: Hurricanes
15	Nov. 28	LAB 14: Climate Controls
16	Dec. 5	LAB 16: Climate Variability
17	Dec. 12	LAB 17: Simulating Climate Change