

Department of Geography and Environmental Science
Hunter College (CUNY)

PGEOG 13000
WEATHER AND CLIMATE LAB - SECTION 1L06
Spring 2025 SYLLABUS

Day/Time: Mondays 11:30 – 1:20 PM

Mode of Instruction: IN PERSON

Room: HN1028 (Hunter North)

Lab Instructor: Francesca Lingo

Email: flingo@gradcenter.cuny.edu

Office: HN1032 (Hunter North)

Office Hours: Thursday 1:30 PM – 2:30 PM

****** We can schedule a Zoom meeting based on need and availability. Please see me during or after class or send an email with a detailed description of the question or request and we can schedule a date and time to meet. **Be sure to write the Lab section in the subject line (Ex: 1L06: Question) and include your full name in the body of the email.** I will try my best to answer all emails within 24 hours, and within 48 hours on the weekends.

COURSE DESCRIPTION

This is the lab section of the PGEOG 13000 Weather and Climate course, which has a lecture and laboratory component worth 4.0 credits (5 hours). The course fulfills the Hunter Common Core C, Life and Physical Sciences, and the General Education Requirements GER 2/E (Natural Science). There are no prerequisites. The course (lecture and lab) is an introduction to meteorology and atmospheric sciences. It includes the structure and composition of the atmosphere and the elements that affect it, such as pressure, humidity, and temperature. It examines the development of various weather phenomena, such as cloud formation, fronts, storm systems, severe weather, and reviews essential weather forecasting and analysis techniques. The course explores short- and long-term climate processes and their impact on the environment and people. It 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 the lecture will be demonstrated with hands-on and technology-based activities using a variety of exercises and observations. In several lab exercises, we will be using mathematical formulas, calculations, and graphs. Lab exercises are designed to further your understanding of these concepts through application and analysis.

EXPECTED LEARNING OUTCOMES

Upon successful completion of PGEOG 13000, Weather & Climate Lab, students should be able to:

1. Describe and explain the basic elements that determine everyday weather, severe weather patterns and climatological features across the earth.
2. Explain the relationship between the Sun and the Earth and the Sun's planetary impact on weather and climate.
3. 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, fronts, storm systems, and severe weather; (c) interpret methods of weather forecasting and create basic weather maps.
4. 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, and (c) the impact created by shifts in climate zones.

MATERIALS

Lab Manual:

Greg Carbone, Exercises for Weather and Climate, 9th ed. Pearson, 2016 ISBN-10: 0134041364, ISBN-13: 9780134041360

We will be working on lab exercises from the manual in class. You may use a hardcopy or the e-text version. You may write your answers on a separate piece of paper. The e-text is not recommended if you want to print a hardcopy due to alignment and other printing errors. There is also a reserved copy of the manual in the Hunter Library (Call Number: QC981 .C34 2016) if you want to make copies.

Please note that hard copies of the lab exercises will be provided in class unless noted otherwise.

Optional: Calculator, protractor, pencils, colored pencils, eraser, and paper (for notetaking).

CLASSROOM POLICIES

Attendance is taken every class. It is important that you attend every session to work on in-class lab. In addition, there will be a short lecture at the beginning of every session. I encourage you to ask questions and participate in discussions during this time. As a reminder, class participation constitutes 30% of the final lab grade. Please adhere to the following guidelines during class sessions:

- Lecture and class notes should be taken using pen or pencil and paper.
- All cell phones must be silenced.
- Texting and other non-class related smart phone activities are not allowed. Students should quietly excuse themselves from the classroom if substantial external electronic communication is required.
- Tape recording is not permitted (proper documentation must be provided to grant an exception)
- Laptops, iPads, tablets, and other electronic devices may be used **ONLY** for lab assignments during class time.

Please be respectful of yourselves and each other. Inappropriate behavior in our language and/or conduct will not be tolerated. At times we will be working in groups and all students are expected to abide by classroom policies to provide a more productive learning environment.

All people have the right to be addressed and referred to in accordance with their personal identity. In this class, we will have the chance to indicate the name that we prefer to be called and, if we choose, to identify pronouns with which we would like to be addressed. I will do my best to address and refer to all students accordingly and support classmates in doing so as well. If there is a name or pronoun(s) you prefer to be addressed by, please approach me in class, send me an email, or mention it to me privately during office hours and I will add this information to my course roster.

Due to the ongoing COVID-19 pandemic, we must continue to adhere to all guidelines from CUNY. [COVID-19 Info – The City University of New York \(cuny.edu\)](https://www.cuny.edu/covid-19/). You are no longer required to wear a mask. However, since we will be working in groups, wearing a mask is highly recommended. **If you are not feeling well, please do not come to class.** Send an email and we can discuss how and when you can make up any missed assignments. If you have any other health or wellness related questions or concerns, please let me know as soon as possible.

GRADING RUBRIC (LAB)

Assignments/Participation	% of Final Lab Grade	Description
Lab assignments	50	All discussion questions that are completed
Class participation	50	This includes all exercises completed in class as well as individual participation, and group activities.

This is a combined course, including both lecture and lab. Please see your lecture syllabus for more details. **Your final lab grade is 30% of your final (lecture and lab combined) grade.**

Think of it in terms of points, for example:

30% = 30 points

If you get an 80 as a final lab grade, you multiply that by .30. The result = 24. That means you earned 24/30 points for the lab component.

Extra-Credit

EcoCredits (Outdoor activities):

Our student club the Greenbelt Society, in collaboration with institutions such as the NYC Parks and Recreation Department and the American Littoral Society will be organizing and/or participating in several outdoor activities such as coastal clean-ups and tree planting during this semester. We will discuss in more detail the potential to earn extra credit towards the final lab grade.

LAB ASSIGNMENTS

Lab exercises from the manual will be completed in class, individually or in groups. You must turn in a physical lab to be graded, please make sure your handwriting is legible and you use proper grammar in your responses. (Example: use “because” instead of “b/c” or “at” instead of “@”). Discussion questions should be answered with at least 3 – 5 complete and thoughtful sentences to receive full credit. **You will be allowed ONE missed lab. No labs will be accepted after the end of class. Exceptions will be made on a case-by-case basis and must be addressed immediately.** Please let me know if you have any questions or concerns.

I take academic responsibility and honesty very seriously.

Please be mindful of assignments and due dates. Your responses must be your own. My penalty for plagiarism or cheating will result in giving you an automatic zero for the assignment for the first time, an F for the course if it is repeated. The college may also take further disciplinary action which can negatively impact your academic standing. If you find the work challenging or need extra help with lab assignments, there are resources available to help you. Tutoring is normally offered for this course every semester, and I encourage you to utilize it when available. In addition, I will post additional resources after class sessions to assist you in completing the “test” assignment given on Blackboard. I will also be available during office hours and via email if you need further help.

WEEKLY SCHEDULE

subject to change

Week #	Date	Topic	Questions	Textbook Chapter
1	1/27	1. Syllabus Review 2. Lab 1A: a. Units and Dimensions (Review) b. Latitude and Longitude	All questions	
2	2/3	Lab 1 - Vertical Structure of the Atmosphere	1-22	1
3	2/10	Lab 2 - Earth-Sun Geometry	1-6, 9-12, 17	2
4	2/17	NO LAB CLASS		
5	2/18	TUESDAY FOLLOWING MONDAY SCHEDULE Lab 3 - Surface Energy Budget	Lab 3: 1-4, 11-15	2 and 3
6	2/24	Lab 4 - Global Energy Budget	Lab 4: 1-5, 11-15	2 and 3
7	3/3	Lab 5 - Atmospheric Moisture	10-29	4
8	3/10	Lab 6 - Saturation and Atmospheric Stability	1-16, 18-25	4
9	3/17	Lab 9 - Weather Map Analysis (Hand-in)	1-3, 5, 8-9	8 and 9
10	3/24	Lab 10 - Mid-latitude Cyclones	1-17	9
11	3/31	NO LAB CLASS		
12	4/7	Lab 12 - Thunderstorms and Tornadoes	1-17	10
13	4/14	NO LAB CLASS		
14	4/21	Lab 13 – Hurricanes	1-17	11
13	4/28	Lab 14 - Climate Controls	1-22	15
14	5/5	Lab 16 – Climate Variability and Change	1-23	14
15	5/12	Lab 17 - Simulating Climate Change	1-16	14

STATEMENT ON THE USE OF ARTIFICIAL INTELLIGENCE (AI)-BASED TECHNOLOGIES

- Artificial intelligence-based technologies, such as ChatGPT, must not be used to generate responses for your assignments.
- Unauthorized use of artificial intelligence software or word mixing software to complete assignments or disguise plagiarized work is considered unauthorized assistance in this course.
- Use of an AI text generator when an assignment does not explicitly call or allow for it without proper attribution or authorization is plagiarism.

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 reaffirms 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 relationships.

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, or 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. [Sexual-Misconduct-Policy.pdf \(cuny.edu\)](#)

SYLLABUS CHANGE POLICY

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.