

PGEOG 13000- Weather and Climate Lab Section 1L05
Fall 2021 (In Person)
Wednesday 2:10pm - 4:00pm, 1028HN

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Office hours by appointment

Email Policy

The best way to contact me is through email. (1) Please use PGEOG 130 1L05 Weather and Climate Lab in the subject line and sign your full name to any email message. (2) Please use your @myhunter email for all communications. I will try to respond your email within 24 hours. Please allow for a delay over weekends and holidays.

Textbooks

Required Lab manual

Exercises for Weather & Climate 9/E

Greg Carbone, University of South Carolina; ISBN-13: 978-0-13-404136-0; Prentice Hall 2016

- **Do not purchase earlier or used editions.** Used editions will be missing sections, and several of the labs have significantly changed for this edition. Make sure that you have access to the manual on the first day of class. Do Not Purchase the Vitalsource/Coursesmart ebook for the lab text. There have been MAJOR formatting problems with it.
- 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. If it is missing pages you are still responsible for the work.

Course Description and Objectives

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 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 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 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 mathematical formulas and calculations. You are expected to have at least a basic understanding of mathematics through algebra.

Each session will begin with a PowerPoint presentation of background content for the lab (which will also be uploaded to Blackboard to its own folder). I will give general instructions and details for questions. Please try to read the lab beforehand, so you can be prepared to come to class with any questions. These questions can also help your fellow classmates!

Expected Learning Outcomes

Upon completion of the course the student will be able to:

1. Describe, explain and appreciate the interconnected nature of the Earth systems through effective oral and written communication.
2. Identify major geographic features (both physical and human) on map and globe.
3. Explain the relationship between the Sun and the Earth and the Sun's planetary impact on weather and climate.
4. 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.
5. 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

Assignment Submission

- Labs must be submitted through Blackboard. A folder will be created for lab submission.
- Please submit the lab as a Word doc or PDF and follow the question list in the lab itself. For those questions that require a drawing on maps or graphs, photograph the necessary page and submit it with the assignment (make sure it is clear to read). It is done this way for easier grading and can rectify issues with difficult to read handwriting.
- For math equations, write out using the four basic symbols in Word, [+ - x /] Exponents, if relevant, can be shown with a carat [$4^3 = 64$, i.e., four to the third power = 64].
- Write your full name on all submissions!
- You can work together on labs, but there must be separate submissions.
- **You will have one week to complete each lab (with the exception of Pre-lab 1A-E, of which you will have 2 weeks to complete). The labs must be submitted by midnight of the date indicated on the schedule. Labs not submitted in a timely manner will receive a grade of zero.**
- No late labs will be accepted, unless you have a documented excuse or contacted the professor **prior** to the assignment due date, and you received written permission to submit your assignment at a later date.

Grading

- Grading breakdown for labs and pre-lab quizzes can be found on your lecture syllabus. Your lab grade will be composed of the lab manual work, and pre-lab quizzes.
- Your lab grade will be posted to blackboard with comment(s) on any corrections.

- After the labs are submitted, I will post the correct answers on Blackboard in a folder.

Blackboard

Make sure that your Blackboard account is active and that you know how to use it. I will use it for uploading course related work (e.g., powerpoint), sending reminders and to view your lab submissions. Please email me as soon as you find that you can't find something. I will not be responsible for work that you miss because you did not check your @myhunter email account or Blackboard. If you have any questions regarding Blackboard or any other tech questions – I recommend that you first reach out to me because I might be able to easily solve the issue. You can also contact the student helpdesk via phone at (212) 650-3624 or email at studenthelpdesk@hunter.cuny.edu. Please make sure that you have access to your Hunter email (check regularly) and your CUNYfirst account by the first day of classes.

Weather and Climate Lab Schedule			
Course Date	Lab due by	Lab assignments	Pre-lab Quiz
25-Aug		Pre-lab exercises (A-E)-posted on Bb or printed copy	
1-Sep	15-Sep	Pre-lab exercises (A-E)-posted on Bb or printed copy	
8-Sep		No class	
15-Sep		No class	
22-Sep	29-Sep	Lab 1: Vertical Structure of the Atmosphere	1
29-Sep	6-Oct	Lab 2: Earth-Sun Geometry	2
6-Oct	13-Oct	Lab 3: The Surface Energy Budget	3
13-Oct	20-Oct	Lab 4: The Global Energy Budget	4
20-Oct	27-Oct	Lab 5: Atmospheric Moisture	5
27-Oct	3-Nov	Lab 6: Saturation and Atmospheric Stability	6
3-Nov	10-Nov	Lab 9: Weather Map Analysis & Lab 10: Mid-Latitude Cyclones	7
10-Nov	17-Nov	Lab 12: Thunderstorms and Tornadoes	8
17-Nov	24-Nov	Lab 13: Hurricanes	9
24-Nov	1-Dec	Lab 14: Climate Controls	10
1-Dec	8-Dec	Lab 15: Climate Classification	11
8-Dec	15-Dec	Lab 16: Climate Variability and Change	12

Course Policies

Attendance is an integral part of the course. Missing lab will negatively impact your performance as there will be things discussed and reviewed “in class” that are not in your text or lab book. While there will be no point or grade deductions based on attendance, you cannot expect to learn and understand the material if you do not participate in the class.

Missing a class – be it your lecture or our lab class - does not excuse you from completing and submitting the material that was assigned or that was due that day.

Hunter College Policy 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 the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

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 Harassment

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.

1. 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).
2. 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.

Syllabus Policy

Except for changes that substantially affect grading, this syllabus is a guide for the course and is subject to change with advance notice. These changes will be announced in class and through Blackboard announcements. Please make sure to check Blackboard regularly!