PGEOG 130 – WEATHER & CLIMATE (4 CREDITS) - SUMMER 2025
LECTURE (Sec 01): Tu / Th 3:20 PM – 6:28 PM
LAB (Sec 1L01): Tu / Th 6:40 PM – 8:48 PM

Room: 1028 Hunter North
Semester Dates: 5/27/25 – 7/8/25

LECTURE & LAB INSTRUCTOR CONTACT INFORMATION

Instructor: Jasmine Bayron
Email address: jbayron@hunter.cuny.edu
Office Hours: Virtually and by appointment only

CONTACT POLICY

You may email me with any questions you have regarding the lecture and lab material. I'm here to help but you must make an attempt to solve your own problems first. This means reading the required material and thinking before you send me an email. In your email, you must include PGEOG 13000 in the subject line. Also, sign your full name as it appears in CUNYfirst. In addition, be as descriptive as possible with your question, tell me your thought process, and include any relevant pictures if needed. For example, do not simply say "I have a question about #7 in lab 3." Instead, write the question out or show a picture of it, tell me what you don't understand about it, and what you are currently thinking for an answer. Furthermore, you MUST use your hunter email when contacting me. You can expect to have your email messages returned within 48 hours. If I do not respond within this time frame, please forward the same email again.

COURSE DESCRIPTION

This course will describe the basic principles and elements that shape and determine our weather and the earth's climate. The course will begin with a discussion of the Earth System, with particular emphasis on the atmosphere. Next, we will discuss the energy that drives all we observe in the atmosphere. The first part of the course will concentrate on describing in some detail the elements that are common to weather and climate: temperature, pressure, moisture, clouds and winds. The second part of the course will, then, concentrate on how all those elements, working together or by combinations, determine the general circulation patterns in the atmosphere and oceans, as well as our weather patterns. Finally, we concentrate on air pollution and the changing climate and in this context; we will discuss some current issues, such as the potential impact that humans have on climate and climate change.

Note: Mathematical formulas will be used, and calculations will be made in this class. You are expected to have at least a basic understanding of mathematics through algebra and basic trigonometry (the trigonometry is just for one lab).

CUNY REQUIREMENT DESIGNATION

This course will fulfill the Common Core Requirement for categories C & D, Life and Physical Sciences and Scientific World.

LEARNING OBJECTIVES AND OUTCOMES

A student who successfully completes this course can:

1. Explain the scientific method and apply it to solve problems in meteorology and climate studies.

2. Explain and appreciate the interconnected nature of the Earth systems through effective oral and written communication.
3. Identify major geographic features (both physical and human) on map and globe.
4. Discuss the relationship between the Sun and the Earth and the Sun's planetary impact on weather and climate.
5. Recognize the interaction between the elements of the atmosphere, including
   a. the composition and the structure of the atmosphere, and its distribution around the planet, including the basic chemistry and physics of atmospheric processes
   b. the atmospheric and oceanic circulation processes, and
   c. fronts, storm systems and severe weather with an emphasis on North America
6. Discuss methods of weather forecasting and be able to utilize weather forecasting tools and techniques, as well as interpret and create basic weather maps.
7. Recognize and analyze 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

TEXTBOOKS

*Lecture Text (Recommended): Lutgens, Tarbuck, Herman, Tasa. The Atmosphere: An Introduction to Meteorology, 14th edition. ISBN: 978-0134758589

*The 12th or 13th edition of the lecture text is acceptable. It is ok to rent or buy used. The 13th edition is on reserve in the library (Call Number: QC861.2 .L87 2016)

~~**Lab Text (Recommended): Carbone, Greg. Exercises for Weather and Climate, 9th edition. ISBN: 978-0134041360~~ All lab work will be on brightspace

Older editions of the lab text are not acceptable. The lab text is on reserve in the library. You can photocopy and use this as long as there is no writing in it. Please note that I do not know the condition of this book. If there are missing pages you are still responsible for the work. **Before purchasing, please look out for an email from me on brightspace!

GRADING METHOD AND SCALE

Grades will be based on class participation, lab assignments, two mid-term exams, and one final exam. A detailed description of the Hunter College Grading System may be found at https://ww2.hunter.cuny.edu/students/academic-planning/degree-requirements/construct-an-academic-plan/gpa-calculator/grading-scale/. A breakdown of the final grading rubric is provided below:

• Exam I: 20%
• Exam II: 20%
• Final Exam: 25%
• Laboratory Grade: 35%
*Final Exam is scheduled to take place on Tuesday 7/8/25 at 3:30pm.

*I do NOT drop any Exam grades.

* If you are caught cheating on an exam or on your lab assignments, you will fail the course.

*If you miss half or more of the labs, you will not pass the course.

Attending the lecture and lab sessions are crucial to succeeding in this class. It will be difficult to fully grasp the concepts if you do not attend the lectures (and pay attention). There may be topics on the exams that I do not include in my notes. Therefore, attendance is vital to achieving a good grade.

A final grade of IN (incomplete) is not normally given in this course except under the most extraordinary and documented circumstances. You must contact me within 48 hours of the scheduled day/time of the final exam and complete a Contract to Resolve an Incomplete Grade.

It is your responsibility to check the deadlines for Withdrawal and the Pass / No Credit submission. Here is the link to Hunter's academic calendar where important dates may be mentioned: https://hunter.cuny.edu/students/registration/academic-calendar/

If you miss a considerable amount of time in the class including the final, and have many missing assignments, you will be assigned a WU in the course which counts as an F but may affect your financial aid.

EXAM INFO

All exams will be composed of a majority of multiple-choice questions intermixed with a handful of true or false and/or short answer type questions. Some of these questions will involve graphical / diagram analysis and/or minor calculations. However, you will NOT need a calculator. The exams will have between 55 and 65 questions. In addition, the exams are typical in class exams - closed book, no note, no internet, individual, exams for which you'll have about 1 hour 15 minutes.

During exams you may not wear any type of smart watch (e.g. an apple watch), hats, or hoods. You may also not use the bathroom unless it is an emergency. If you have to go to the bathroom, you must leave all electronic devices in class. Only one person would be allowed out at a time during an exam.

Do NOT miss an exam. Make-up exams will NOT be given except under the most extraordinary circumstances such as documented illness, documented death in the family, etc. Make up exams will be given at a mutually convenient time and while they will cover the same chapters as the original exam, there may be more questions, and/or questions will be different. In addition, there will be no curve (if given to the rest of the class) for those who need make-up exams. If approved for a make-up exam, it MUST be taken with a week of the original exam.

TEACHING FORMAT AND CLASS POLICIES INVOLVING COVID

~~The lecture and all labs are in-person classes. You are expected to attend each session. If for some reason you must miss more than one consecutive class for any reason, please email me as soon as possible with an explanation and proof of a valid reason.~~

Both the lecture and lab for this course has been moved to an online asynchronous format. This means that there won't be in-person sessions as previously listed on CUNY First. You will find recordings on Brightspace of Lectures. Although the course is asynchronous, there are still weekly due dates that must me met.

LABORATORY PREPARATION

Come to class prepared. Your lab instructors will expect you to have read the laboratory exercise listed for each class ***prior*** to the beginning of that class period. Laboratory exercises can be complex, and if you do not read them before class you will have difficulty asking questions and turning them in on time. All pre-requisite knowledge needed to succeed in lab should first be covered in lecture before a lab is due; however, there may be specific topics that differ slightly or go into more detail. In addition, you **MUST** have all materials for the day's lab printed out and with you or accessible on an electronic device during the labs. If you are unprepared it will count as a half an absence.

LAB DUE DATES AND LATENESS

Labs are all due on Sunday by 11:59pm. The labs are usually exercises that involve calculations, interpretations of graphs, diagrams, data, etc. These are submitted on Brightspace. Late lab exercises will have their grade **reduced 10% for each day received late** unless you have a valid excuse that can be documented. This policy will be strictly enforced.

EXTRA CREDIT

No extra credit is given in this course. Whatever effort you would put into an extra credit assignment put into completing the lab exercises and studying for exams. That being said, I will try to be as understanding as I can when certain situations or hardships arise. However, you must address them with me immediately.

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. Remember that copying answers from the internet, an answer key, or someone else is plagiarism. In this class you can work in groups in lab. In fact, I highly encourage this, but you must always record the answers to the labs in your own words (and in words you understand). Do not give me or your lab instructors any reason to be suspicious or doubt that you are being honest as I will not tolerate cheating. If you are caught cheating / copying on an exam or lab, you will get an automatic zero on the assignment and possibly fail the course. I will also report you and the suspect incident to the office of the Dean of Students.

ADA POLICY (for students with special accommodations)

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 to secure necessary academic accommodations.

For further information and assistance please call (212-772-4857)/ TTY (212- 650- 3230). **You must be registered with the Office of AccessABILITY to qualify for the accommodations.**

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) of Colleen Barry (colleen.barr7@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link: http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf

***Tentative schedule of course topics and assignments are listed below:**

Week	Day	Date	Lecture Topic	Lab #
~~1~~	~~Tu~~	~~27-May~~	~~Syllabus Ch 1, Ch 2~~	~~Lab 0~~
	Th	29-May	Review Syllabus, Ch 1, Ch 2	Lab 1
2	Tu	3-Jun	Ch 2, Ch 3	Lab 2
	Th	5-Jun	Ch 3, Ch 4	Lab 3 & 4
3	Tu	10-Jun	Ch 4, Ch 5	Lab 5
	Th	12-Jun	Ch 6 & 7	Lab 6
4	Tu	17-Jun	**Exam #1**	Lab 9
	Th	19-Jun	**No School (Juneteenth)**	
5	Tu	24-Jun	Ch 8, Ch 9, & Ch 10	Lab 10
	Th	26-Jun	**Exam #2**, Ch 11	Lab 14
6	Tu	1-Jul	Ch 15	Lab 16
	Th	3-Jul	Ch 14	-------
7	Tu	8-Jul	**Final Exam**	-------

Exam 1: Ch 1 – 5
Exam 2: Ch 6 – 10
Final Exam: Everything but more questions per chapter for Ch 11, 14, 15

Lecture Chapter Titles

Lecture Ch #	Chapter Title
1	Introduction to Atmosphere
2	Heating Earth's Surface and Atmosphere
3	Temperature
4	Moisture and Atmospheric Stability
5	Forms of Condensation and Precipitation
6	Air Pressure and Winds
7	Circulation of Atmosphere
8	Air Masses
9	Mid-Latitude Cyclones
10	Thunderstorms and Tornadoes
11	Hurricanes
14	Climate Change
15	World Climates

Lab Chapter Titles and Questions to be Answered

Lab #	Title	Questions to Answer
1	Vertical Structure of Atmosphere	1-22
2	Earth-Sun Geometry	1-6, 9-19
3	The Surface Energy Budget	1-15
4	The Global Energy Budget	1-5,11-15
5	Atmospheric Moisture	10-29
6	Saturation and Atmospheric Stability	1-16, 18-25
9	Weather Map Analysis	1-9
10	Mid-Latitude Cyclones	1-17
12	Thunderstorms and Tornadoes	1-17
13	Hurricanes	1-17
14	Climate Controls	1-22
16	Climate Variability and Change	1-23
17	Simulating Climate Change	1-16