Weather and Climate
PGEOG13000
Fall 2022 Syllabus
V1 Aug, 2022

This syllabus and schedule are guides for the course and are subject to change without advance notice. All changes will be announced on Blackboard, by email, and/or in class.

Instructor: Allan Frei, afrei@hunter.cuny.edu
Office Hours: by appointment, preferably during office hours: Thu 12:30-2PM, Fri 9-10:30AM
Course Times: Mondays and Thursdays, 10:00AM – 11:15AM
Mode of Instruction: On Line, Synchronous
Zoom Link: https://us02web.zoom.us/j/81218427506

Course Overview

In this course we describe the basic principles and basic elements that determine the Earth's weather and climate. We learn about the atmospheric component of the Earth System; the energy that drives all processes on earth; the general circulation patterns in the atmosphere; and weather patterns. In the final portion of the course we learn about our changing climate and air pollution.

Prerequisites: There are no prerequisites for this course.

Learning objectives: The student who successfully completes this course can:

- Describe the basic elements that determine weather patterns and climatological features across the earth
- Describe the basic chemistry and physics of atmospheric processes
- Discuss the basic concepts related to earth's climate, and what is known about recent climatic changes

Lectures: The mode of instruction is on-line, zoom link: https://us02web.zoom.us/j/81218427506

Books:

Lecture text book: The Atmosphere: An Introduction to Meteorology, 14th edition, Lutgens, Tarbuck, Herman, Tasa. ISBN-13: 9780134758589 (13th, 12th or 11th Editions are acceptable).
Lab Manual: Exercises for Weather and Climate, by Greg Carbone, 9th Edition; ISBN-13: 97801340041360. You must have your lab manual for the first day of lab.

Exams: There are four exams during the semester. Exams are not cumulative, meaning that each exam covers different chapters of the book and different lectures.

Low Impact Assignments: On most days we will have break-out room exercises during the zoom lecture. These count for only a small percentage of your course grade, but they help to clarify concepts, many of which are covered in the labs or on exams. Low impact assignments are not graded. You get credit if you demonstrate that you understand the basic concept, and made an effort to respond to the questions. Bad grammar or spelling does not count against, so long as I can understand what you are saying.
LOW IMPACT ASSIGNMENTS ARE DUE BEFORE THE BEGINNING OF THE NEXT CLASS MEETING

A blackboard discussion board forum has been created to discuss the low impact assignments. You may discuss them as much as you like.

Grading policy: Grades are based on exams, labs, and low impact assignments, as described on this table:

Four exam grades	65%
Lab grades	30%
Low Impact Assignments	5%

A description of the Hunter College Grading Scale may be found at:
https://ww2.hunter.cuny.edu/students/academic-planning/degree-requirements/construct-anacademic-plan/gpa-calculator/grading-scale

To communicate with the professor: All email messages about this course should go to afrei@hunter.cuny.edu, should include "PGEOG130" in the subject line, and should be signed with your full name as it appears on blackboard or CUNYFirst. I try to respond promptly, but please do not hesitate to contact me again if I do not respond to your email within two days, or sooner if you need more urgent attention!

The professor will communicate with you: using the email address that Blackboard has. Make sure that you check the email that is listed under blackboard.

Blackboard
Material provided to students, and material submitted by students, will be through Blackboard. You will access low impact assignments, check grades, and take exams, through Blackboard. Other material may be available on line.

Class Environment on Zoom
To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavor to be respectful in our language, in our examples, and in the manner in which we conduct our discussions and group work. If you have any concerns about the environment of the class, please contact the professor.

Informed Registration Statement
In this 4-credit course we will explore the fundamentals of meteorology and the Earth's climate. Topics will include the physics of the atmosphere, interactions between the atmosphere and the oceans, climate change and environmental issues relating to weather and climate. This is an applied science course that has a lab component (hands-on work), therefore it can be used to meet the GER2E General Education Requirement as well as to meet the Physical and Life Science category of the Hunter Common Core.

Syllabus Changes
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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.

Hunter College's 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.

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.

Hunter College's Policy on Students with Disabilities:
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 E1124 to secure necessary academic accommodations. For further information and assistance please call (212- 772- 4857)/TTY (212- 650- 3230).

Tentative Lecture Schedule (Subject to Change)

Mo-Th 10AM – 11:15AM

Zoom Link: https://us02web.zoom.us/j/81218427506

Class number	Date	Lecture chapter from text book
1	Th 8/25	Intro to Course, and Ch. 1 Intro to the Atmosphere
2	M 8/29	Ch. 1
3	Th 9/1	Ch. 2 Heating the Earth's Surface and Atmosphere
	M 9/5	NO LEC, COLLEGE CLOSED
4	Th 9/8	Ch. 2
5	M 9/12	Ch. 3 Temperature
6	Th 9/15	Ch. 3
7	M 9/19	Ch. 4 Moisture and Stability
8	Th 9/22	Ch. 4, **review for exam 1**
	M 9/26	NO LEC, COLLEGE CLOSED
9	**Th 9/29**	**Exam 1: Ch. 1-4**
10	M 10/3	Ch. 5 Forms of condensation and precipitation
11	Th 10/6	Ch. 6 Air pressure and winds
	M 10/10	NO LEC, COLLEGE CLOSED
12	Th 10/13	Ch. 7 Circulation of the atmosphere
13	M 10/17	Ch. 7
14	Th 10/20	Ch. 7
15	M 10/24	Ch. 8 Air Masses
16	Th 10/27	Ch. 9 Mid-latitude Cyclones, **review for exam 2**
17	M 10/31	Ch. 9
18	**Th 11/3**	**Exam 2: Ch. 5-8**

19	M 11/7	Ch. 10 Thunderstorms and Tornadoes
20	Th 11/10	Ch. 11 Hurricanes
21	M 11/14	Ch. 11
22	Th 11/17	Ch. 14 The changing climate
23	M 11/21	Ch. 14, **review for exam 3**
	Th 11/24	NO LEC COLLEGE CLOSED
24	**M 11/28**	**Exam 3: Ch. 9-11**
25	Th 12/1	Ch. 14
26	M 12/5	Ch. 13 Air Pollution
27	Th 12/8	Ch. 13, **review for exam 4**
28	M 12/12	*Special Topic related to NYC weather or climate*
Finals Week	**12/15 to 12/21**	**Exam 4: Ch. 13, 14,**