WEATHER AND CLIMATE
PGEOG 13000

Professor Frank Buonaiuto

Class Meeting: Room W615 Hunter West
Lectures: Tuesday /Friday, 14:10-15:25

Laboratories:
1L02 Monday 1110 – 1300, Rahul Sahajpal
1L03 Tuesday 0910 – 1100, Rahul Sahajpal
1L04 Wednesday 1010 – 1200, Katherine Towey

Contact Information:

Office	Department of Geography and Environmental Science Room1049 Hunter North
E-mail	fbuonaiu@hunter.cuny.edu (*)
Tel.	212-650-3092
Office Hours:	Tu: 1730 – 1845 (or by appointment) Th: 1730 – 1845 Fr: 1200 – 1400

* Note: the best way to contact me is through your Hunter College email – (1) You must include the course name or number in your subject line and (2) you must sign your name as it appears in CUNYfirst in your email. I try to answer all emails within 24 hours. Allow for a 48 hour delay on the weekends.

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Updates will be posted regularly on BlackBoard.

Informed Registration Statement

In this 4-credit course we will explore meteorology and climatology. Topics will include weather forecasting, climate change and environmental issues relating to weather and climate. This is a lab science course and can be used to meet the GER2E General Education Requirement and can meet the Physical and Life Science category of the Hunter Common Core.

Course Description, Learning Objectives, & Outcomes

This course will describe the basic principles and elements that shape and determine the Earth's weather and 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.

The student who successfully completes this course can:

- recognize the methodologies employed by natural scientists.
- discuss the nature of scientific inquiry and recognize examples of hypotheses formulation and testing as well as the development of some significant scientific theories.
- define the basic chemistry and physics of atmospheric processes.
- explain the development of weather analysis and forecasts.
- identify past changes in climate and how they may provide insight into the present and future states of the planet.
- explain feedback mechanisms and distinguish between time scales of operation.
- discuss world climate distribution and how it relates to the general circulation of the atmosphere.

Recommended Textbook

The Atmosphere: An Introduction to Meteorology, 14th edition, Lutgens, Tarbuck, Herman, Tasa.

- ISBN-13: 9780134758589
- (13th, 12th or 11th Editions are acceptable).

Required Course Lab Manual

Exercises for Weather and Climate, by Greg Carbone, 9th Edition

- ISBN-13: 97801340041360
- eBook Version is not recommended, plagued with printing limitations (You must have your lab manual for the first day of lab.)

You must be registered for a weekly lab. Lab schedules can be found at:
http://www.geo.hunter.cuny.edu/tbw/wc.labs.fall.2018/index.html

Grades

Grades will be based on class participation, homework assignments, two mid-term exams and one final exam.

Pre-Lab Quizzes:	5%
Lab Exercises (11):	20%
Class Participation/Homework:	25%
Mid-term exam:	25%
Final exam:	25%

Exam Guidelines and Policies
Exams will be based on assigned textbook readings, journal articles, materials covered in class and case studies. Dates are CLEARLY posted on the Course Calendar and Content. Examinations are 1 hour and 15 minutes for the mid-term and 2 hours for the final exam. No electronic devices or reference materials will be permitted on the desk during exams unless specified. Make-up exams are ONLY available in extreme cases, and with medical (or other) forms that confirm the absence.

CR/NC Policy
The CR-NCR option will be honored only if the conditions stated on the CR/NCR form are satisfied: all course work has been completed and you earned grades such that you accumulate at least 50 points total in the course. Students on probation are ineligible.

Attendance and Classroom Policies
Attendance is required at all lectures. All students are expected to abide by the following policies when in lecture in order to provide a more respectful and productive learning environment.

- All cell phones must be silenced.
- Laptops are not permitted.
- Texting and other non-class related smart phone activities are not allowed. Students should quietly excuse themselves from the lecture if substantial external electronic communication is required.

Syllabus Change Policy
Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Updates will be posted regularly on Blackboard.

Laboratory Policies
Lab exercises are due, in lab at the beginning of your next class meeting. Late lab exercises will have their grade reduced 20% for each day received late unless you have a valid excuse that can be documented. This policy will be strictly enforced. If you miss a class session, you are still expected to do the weeks work and hand the lab in on time, do not wait until the next meeting. Please ask your lab instructor about how they would like you to hand in any late labs.

Academic Dishonesty
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.

Office of AccessABILITY.
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 HE1124 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, 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, Room HE 1123.

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

Schedule of Topics and Readings				
Month	Date	Day	Topic	Reading
Jan	28	Tue	Introduction to the Atmosphere	Chapter 01
	31	Fri	Introduction to the Atmosphere	Chapter 01
Feb	03	Tue	Heating Earth's Surface and Atmosphere	Chapter 02
	07	Fri	Heating Earth's Surface and Atmosphere	Chapter 02
	10	Tue	Temperature	Chapter 03
	14	Fri	Temperature	Chapter 03
	17	Tue	Moisture and Atmospheric Stability	Chapter 04
	21	Fri	Moisture and Atmospheric Stability	Chapter 04
	24	Tue	Condensation and Precipitation	Chapter 05
	28	Fri	Condensation and Precipitation	Chapter 05
Mar	03	Tue	Air Pressure and Winds	Chapter 06
	06	Fri	Air Pressure and Winds	Chapter 06
	10	Tue	Circulation of the Atmosphere	Chapter 07
	13	Fri	Circulation of the Atmosphere	Chapter 07
	17	Tue	**Exam 1**	**Chapters 1-7**
	20	Fri	Air Masses	Chapter 08
	24	Tue	Weather Patterns	Chapter 09
	27	Fri	Weather Patterns	Chapter 09
	31	Tue	Tornados	Chapter 10
Apr	03	Fri	Tornados	Chapter 10
	07	Tue	Wednesday Schedule	
	10	Fri	Spring Recess	
	14	Tue	Spring Recess	
	17	Fri	Hurricanes	Chapter 11
	21	Tue	Weather Forecasting	Chapter 12
	24	Fri	World Climates	Chapter 15
	28	Tue	World Climates	Chapter 15
May	01	Fri	Air Pollution	Chapter 13
	05	Tue	Air Pollution	Chapter 13
	08	Fri	Climate Change	Chapter 14
	12	Tue	Climate Change	Chapter 14
	15	Fri	Reading Day	
	19	Tue	**Final Exam (11:30 – 1:30pm)**	**All Fair Game**

COURSE WEBSITE: http://www.geo.hunter.cuny.edu/~fbuon/