

WEATHER AND CLIMATE PGEOG 13000

Professor Frank Buonaiuto

Class Meeting: Hunter North Room 1036

Lectures: Monday and Thursday 1300-1415

Laboratories:

| | | |
|---------------|-------------|--------------------|
| 1L01 Monday | 0930 – 1120 | Natalie Monterrosa |
| 1L02 Tuesday | 0930 – 1120 | Natalie Monterrosa |
| 1L03 Thursday | 0830 – 1020 | Keneshia Hibbert |
| 1L04 Thursday | 1030 – 1220 | Keneshia Hibbert |

Contact Information:

Office Department of Geography and Environmental Science
Room1049 Hunter North

E-mail fbuonaiu@hunter.cuny.edu (*)

Office Hours: Thursday 1430-1530 and by appointment (Zoom option available)

* 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 our 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 elements of weather and climate.
- define the basic chemistry and physics of atmospheric processes.
- discuss the setup of the large-scale circulation of the atmosphere.
- explain the development, geography and hazards associated with tropical and extra-tropical storm systems.
- 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.

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: 9780134041360
- eBook Version is not recommended, plagued with printing limitations
(You must have your lab manual for the first day of lab.)

Grades

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

| | |
|-------------------------------|-----|
| Lab Component: | 25% |
| Class Participation/Homework: | 35% |
| Mid-term exam: | 20% |
| Final exam: | 20% |

Exam Guidelines and Policies

Exams will be based on assigned textbook readings, materials covered in class and homework assignments. Dates are CLEARLY posted on the Course Calendar and Content. Examinations will be administered through Blackboard and students will have the ability to take the exam at a time of their choosing during the exam window.

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).

Online Etiquette Anti-Harassment Statement

In order to maintain an environment conducive to personal and intellectual growth, harassment of any kind is prohibited in our classroom and on our course site. CUNY's policy on sexual misconduct can be found here.

The University strictly prohibits the use of University online resources or facilities, including our course site, for the purpose of harassment of any individual or for the posting of any material that is scandalous, libelous, offensive or otherwise against the University's policies. For online interactions that happen through our course, we will follow the CUNY School of Professional Studies guide to an online academic setting available here.

"Nobody Likes COVID" Policy

I acknowledge the impact COVID-19 has had on our society. As we gather together during the semester please be mindful of your state of health and follow Hunter College policies for reporting potential exposure. Under extreme circumstances we will move to synchronous zoom lectures. Instruction can be found under Course Materials on Blackboard.

Inclusionary Classroom Policy

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.

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

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

RQ = REVIEW QUESTIONS: CHECK BLACKBOARD

TQ = THOUGHT QUESTIONS: CHECK BLACKBOARD

| Schedule of Topics and Readings | | | | |
|---------------------------------|------|-----|--|------------------------|
| Month | Date | Day | Topic | Reading/Assignments |
| JAN | 26 | Th | Introduction to the Atmosphere | Chapter 01 |
| | 30 | Mo | Introduction to the Atmosphere | Chapter 01, RQ1 |
| Feb | 02 | Th | Heating Earth's Surface and Atmosphere | Chapter 02, TQ1 |
| | 06 | Mo | Heating Earth's Surface and Atmosphere | Chapter 02, RQ2 |
| | 09 | Th | Temperature | Chapter 03, TQ2 |
| | 13 | Mo | No Classes Scheduled | |
| | 16 | Th | Temperature | Chapter 03, TQ3 |
| | 20 | Mo | No Classes Scheduled | |
| | 21 | Tu | Moisture and Atmospheric Stability | Chapter 04, RQ3 |
| | 23 | Th | Moisture and Atmospheric Stability | Chapter 04, TQ4 |
| | 27 | Mo | Condensation and Precipitation | Chapter 05, RQ4 |
| MAR | 02 | Th | Condensation and Precipitation | Chapter 05, TQ5 |
| | 06 | Mo | Air Pressure and Winds | Chapter 06, RQ5 |
| | 09 | Th | Air Pressure and Winds | Chapter 06, TQ6 |
| | 13 | Mo | Exam 1 | Chapters 1-6 |

| | | | | |
|-----|----|----|-------------------------------|-------------------------|
| | 16 | Th | Circulation of the Atmosphere | Chapter 07, TQ7 |
| | 20 | Mo | Circulation of the Atmosphere | Chapter 07, RQ6 |
| | 23 | Th | Circulation of the Atmosphere | Chapter 07, TQ8 |
| | 27 | Mo | Air Masses | Chapter 08, RQ7 |
| | 30 | Th | Weather Patterns | Chapter 09, TQ9 |
| Apr | 03 | Mo | Weather Patterns | Chapter 09, RQ8 |
| | 06 | Th | Spring Recess | |
| | 10 | Mo | Spring Recess | |
| | 13 | Th | Spring Recess | |
| | 17 | Mo | Weather Patterns | Chapter 09, RQ9 |
| | 20 | Th | Tornados | Chapter 10, TQ10 |
| | 24 | Mo | Tornados | Chapter 10, RQ10 |
| | 27 | Th | Hurricanes | Chapter 11, TQ11 |
| MAY | 01 | Mo | Hurricanes | Chapter 11, RQ11 |
| | 04 | Th | Climate Change | Chapter 14, TQ12 |
| | 08 | Mo | Climate Change | Chapter 14, RQ12 |
| | 11 | Th | Climate Change | Chapter 14, TQ13 |
| | 15 | Mo | Reading Day | |
| | | | | |
| | 22 | Mo | Final Exam | All Fair Game |

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