

Last update: Jan 24th 2025

Spring 2025

PGEOG 38306/PGEOG 70506/BIOL 79303-05- Ecology of Global Change

Wednesday 11:30-2:20 PM

Classroom: North Bldg 1022

Instructor: Dr. Hanna Makowski

Office Hours: Anytime, by appointment via Zoom

In-person, still working on. Will be on Wednesday either before or after class

Email: hanna.makowski@hunter.cuny.edu

When emailing, you should **include 'EGC' in the subject heading**. Every attempt will be made to respond to emails in a timely manner. In general, emails received between 9 a.m. and 5 p.m. on normal workdays will be responded to on the same day, but emails received after 5 p.m. may not receive a response until the following day.

Course Overview:

Human activities have introduced a suite of planetary-scale perturbations to the Earth system that have profoundly altered the composition and functioning of ecosystems across the planet. In *Ecology of Global Change*, we will review fundamental ecological concepts and processes and explore the ecological consequences of a wide range of global change phenomena. Topics covered will include climate change, land use and land cover change, acid deposition/environmental pollution, habitat fragmentation, urbanization, and invasive species. We will also discuss important biogeochemical cycles (e.g., carbon, nitrogen, water). Through a combination of lectures, discussions, reading the primary literature, and group activities, you will become familiar with the seminal and cutting-edge research investigating the effects of global change on ecosystems and their biota, the scientists conducting this research and the methods they use.

Expected Learning Outcomes

1. Understanding of global environmental change and its ecological consequences
2. Basic understanding of ecological concepts and processes
3. Basic understanding of biogeochemical cycles
4. Perform data analysis and interpret data in spatial and temporal dimensions
5. Understanding of how scientists research impacts of global change on ecosystems
6. Developing skills to comprehend, critique, and write about scientific research

Prerequisites

Students must have passed at least one 100-level science course or have permission from the instructor. **Proficiency in Microsoft Word, Excel, and PowerPoint is assumed.**

As this is an upper-level/graduate-level course, I expect well-written assignments. Communication is an incredibly important component of science, and clear and concise articulation of science will be emphasized in this course. I encourage ALL students to take advantage of the wonderful writing resources available to you at Hunter (<http://www.hunter.cuny.edu/thewritingcenter-ce>) as this will hopefully improve your written communication skills AND your grades on assignments!

Required Texts

There are no required textbooks for this course. Instead, readings will be derived from the peer-reviewed literature, scientifically rigorous internet sources, and articles from the popular media.

Attendance

Because class discussions are central to achieving the learning outcomes of this course, attendance is critical. Therefore, students are strongly encouraged to attend each class and it is the student's responsibility to figure out what was missed during any absence. I strongly suggest exchanging contact information with at least two students, if possible, to connect with in the event you miss a class.

Tentative Schedule: subject to change with notice, notice the highlighted double lecture week!

date	topic
5-Feb	introductions, overview, ecology definition, biome explorer
19-Feb	reading a scientific paper, biogeochemical cycles
26-Feb	paper discussion, biogeochemical cycles
5-Mar	air pollution and atmospheric deposition
6-Mar	QUIZ, GIS project introduction, climate change
12-Mar	climate change
19-Mar	QUIZ, climate change
26-Mar	catch up/ whats ahead, searching the literature, paper project introduction, GIS project due (FRIDAY),
2-Apr	Dr. Hayley Elszasz (NYC mayors office of climate and environmental justice) guest lecture
9-Apr	deforestation
23-Apr	fragmentation
30-Apr	* paper project due* presentations
7-May	urbanization + invasive species * peer review due*
14-May	work on final writing project - *annotated bibliography for 10 new papers due the 16th*, outline due before final (may 19th)
21-May	FINAL, write up

Grading

Assignment	UG	Grad
quizzes	30	30
exit/entry tickets	20	20
gis project	30	30
paper project	30	25
peer review	5	5
annotated bibliography	10	5
outline	10	5
final project	50	50
grad students lecture	NA	20

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 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) and 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.

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

Hunter College 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 education 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 accommodations. For further information and assistance, please call: (212) 772-4857 or (212) 650-3230.

Preferred Gender Pronoun

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.