

Hunter College
GEOL 105 - Introduction to Environmental Geosciences

Semester: Spring 2015

Wednesdays 10:10AM to 1:00PM 1036N

Instructor: Dr. Emily A. Fogarty

Email for this course: eaf.huntergeo@gmail.com

Course Description

This course explores important environmental issues facing society today and investigates the science behind those issues. We will study earth's physical systems to understand global climate change, pollution, energy use, alternative energies, sustainable agriculture, water pollution and water use. We will study the fundamentals of evolution and population ecology to understand biodiversity conservation and the impacts of human activities on habitat. We will also examine the connections between the biological and physical sciences and environmental politics, environmental economics and environmental ethics and environmental health, and how they each figure in solving environmental problems. (3 credits; satisfies GER 2E, non-laboratory science)

Required Textbook

Jay Withgott & Scott Brennan. 2011. *Environment: The Science Behind the Stories*, 4th edition. Pearson Education, Inc. ISBN 978-0321715340. New and used textbooks are available at many online book retailers. It is also available for rental at BN.com and the Hunter College Bookstore. Older editions are not recommended as they are missing some chapters covered in the course.

Student Learning Outcomes:

Students in this course will develop an understanding of:

1. The fundamental principles of the physical and biological sciences that govern ecosystems;
2. The production and uses of energy, mineral and agricultural resources and their related issues of sustainability;
3. The main sources of environmental pollution and their local and global implications for human and nonhuman life;
4. The promises and limitations of science and technology for addressing environmental problems;
5. The complex relationship between science, technology, politics, economics and ethics regarding environmental issues and their potential solutions

Additional Learning Outcomes: GEOL 105 is designed as a first-year, non-lab science course. As such, in addition to learning the basic concepts of environmental geosciences students will learn: how science works, quantitative and qualitative reasoning, interpreting graphs and tables, critical thinking, and how to locate and read scientific materials. While examinations and quizzes will be used to mainly assess student comprehension of content, to meet these additional learning objectives, students will learn and develop these skills and understandings by completing the applied assignment and participating in various in-class exercises.

Grade Breakdown

Midterm Examination	20%
Final Examination	20%
Applied Environmental Geosciences Assignment	15%
Chapter Quizzes	15%
Attendance/Class Participation	30% (15/15)

Note: Midterm and Final exams are multiple choice questions. Quizzes are multiple choice questions, with some short answer questions.

Undergraduate		
Quality Points	Grade Definition	(GPA Index)
A+	97.5 - 100%	4
A	92.5 - 97.4%	4
A-	90.0 - 92.4%	3.7
B+	87.5 - 89.9%	3.3
B	82.5 - 87.4%	3
B-	80.0 - 82.4%	2.7
C+	77.5 - 79.9%	2.3
C	70.0 - 77.4%	2
D	60.0 - 69.9%	1
F	0.0 - 59.9%	0
CR	Credit earned (equivalent to A, B, C)	-
NC	No credit granted	-

Applied Environmental Geoscience Assignment: Investigate an environmental issue/problem occurring at a location of your choice and create a presentation to report on how environmental geosciences are being applied to understand it, and actively address the issue/problem. Potential topics include:

- Water pollution in the East River
- Soil contamination in Gowanus Canal
- Ecological restoration of Bronx River Island
- Conservation of habitat for waterfowl on Staten Island
- Management of NYC water supply (including Catskills watershed)
- Management of NYC solid waste

Schedule of topics and readings: *Note: This schedule is subject to change by the Instructor.*

Week	Date	Topics
1	1/28	Introductions and Course Overview
2	2/4	Chapter 1: An Introduction to Environmental Science
3	2/11	Chapter 2: Earth's Physical Systems: Matter, Energy, and Geology
4	2/18	NO CLASS - Classes follow a Monday schedule
5	2/25	Chapter 4: Species Interactions and Community Ecology
6	3/4	Chapter 5: Environmental Systems and Ecosystem Ecology
7	3/11	Chapter 8: Human Population
8	3/18 3/22	Chapter 10: Agriculture, Biotechnology and the Future of Food [Midterm due end of Week 8]
9	3/25	Chapter 13: The Urban Environment: Creating Livable and Sustainable Cities
10	4/1	Chapter 14: Environmental Health and Toxicology
11	4/8	NO CLASS – Spring Break
12	4/15	Chapter 16: Marine and Coastal Systems and Resources
13	4/22	Chapter 17: Atmospheric Science and Air Pollution
14	4/29	Chapter 19: Fossil Fuels, Their Impacts and Energy Conservation
15	5/6 5/10	Chapter 21: New Renewable Energy Alternatives [Applied Environmental Geoscience Assignment due end of Week 15]
16	5/13	Chapter 23: Minerals and Mining
17	5/20	Final Exam – 10:10 AM to 12:10 AM

Attendance Policy

Students are expected to be present for all meetings of GEOL105. Enrolling in a course such as this one implies a serious commitment on the part of the student to careful study and professional conduct. The instructor WILL take roll every day. Be forewarned that students missing class are responsible for obtaining class notes themselves.

Furthermore students are strongly advised to come to every class, as exams will test heavily students' understanding of the class notes and in-class discussions. Attendance is counted toward your grade AND it is NOT possible to earn the "Class Participation" grade if you miss more than two (2) classes during the semester. NO EXCEPTIONS. Please note that you are to arrive on time, if a student is late more than two (2) classes five (5) points will be deducted from their midterm and/or final score for each additional time tardy.

Classroom policies: Participation entails more than just attending class. It means coming to class prepared, having done the required readings and actively engaging in various activities including class discussions, asking questions, and taking part in small group and individual in class exercises. It also means actively respecting your peers and contributing positively to the group dynamic, for example, by being courteous and respectful of others, not dominating conversations and discussions, allowing others to speak and be heard. To further help create a respectful and productive space for learning, please turn off and put away cell phones.

Proper academic performance depends on students doing their work not only well, but on time. Accordingly, the assignments must be received by the Instructor on the due date specified for the assignment. In the interests of fairness, scores will drop 10% for each week after the due date that an assignment is turned in and no late assignments will be accepted more than one week late.

Incomplete grades (IN) will only be given under extraordinary circumstances, determined on a case-by-case basis between the student and the instructor. To be eligible for consideration, students must have completed, at minimum, all but the Final Examination.

Blackboard will be used as a place for you to upload assignments, take quizzes and as a communication tool for this course. Any announcements will be posted regularly and important documents, including the course outline, assessments and assignments will be posted and available for student reference.

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.

Students with Disabilities

If you need disability-related accommodations for your work in this course, please let me know. 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 E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772-4857 or (212) 650-3230.

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. Any changes will be announced in class and on the course's site on Blackboard.