Introduction to Environmental Geosciences

Geology 105
Spring 2016 MEEHAN
Hunter West 415

Instructor
Kimberly Meehan
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Office
HN 1032

Office Hours
1:30 – 2:30 Mondays

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 air 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; Flexible Core-Scientific World)

Course Learning Objectives
You can expect to finish the course with a basic understanding of:

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

Additional Learning Objectives
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 skills
- How to interpret graphs and tables
- Critical thinking skills
- How to locate and read scientific materials

Required Texts


- Any additional readings will be made available on the Hunter College Library EReserve page for this course
Course Policies

Participation
Proactive engagement with the required readings, daily preparation, and participation in in-class and group discussions will correlate with your quality of learning and personal growth from this course. We will cover a lot of material over the course of the semester, and the only way we will be productive as a class is if each individual completes the work expected of him or her. This means you should complete the assigned readings and assignments PRIOR to the class for which they are due. For my part, this means I will work diligently to return tests and assignments in a timely manner. We will also work together through the use of blackboard to keep track of your progress in the course and to communicate.

At times we may discuss topics that have strong political or ethical views attached to them. A comfortable and respectful environment is to be maintained in our classroom. Individuals should feel free to express their viewpoints on topics, and we will each respect the views expressed by others. Offensive speech and inflammatory comments will not be tolerated. Keep in mind that while many opinions and solutions may exist for the topics we discuss, we will primarily be concerned with those that can be backed up with information and data obtained through use of the scientific method.

Activities
- At times we will do group or individual in-class activities that will be turned in during our lecture time. Activities will only be accepted in the class in which they are assigned. If you miss class, you will be unable to make up the activity unless you have a valid medical excuse that I have approved your absence for ahead of time.

Applied Environmental Geoscience Assignment
- You will investigate an environmental issue or problem occurring at a location of your choice and create a presentation on how environmental geosciences are being applied to understand the problem and to actively address the issue or problem. More details on this assignment will be announced in class.

Attendance
I take attendance at every class meeting. Students should arrive in class on time and be prepared by having read the assigned readings and completed any assignments prior to the class session in which they are due. If you have a legitimate reason for missing a session, you should let me know as soon as possible. In addition, you should ask a classmate or check Blackboard immediately for missed information so that you do not fall behind. We will be moving quickly in this course, and it is your responsibility to keep up. If you miss more than 1 class during the semester, you will lose 25 points from your overall attendance and participation grade for each additional absence.

Extra Credit
I do not offer extra credit. By participating fully and thoughtfully in online and in-class discussions, by having completed the assigned readings, and by consistently attending lectures, you can expect to see positive outcomes both in your overall learning in this course as well as in your final course grade.

Classroom Electronics Use
I permit the use of laptops and tablets ONLY for the purpose of taking notes during lecture. ALL other personal electronics should be turned off or set to silent before entering the classroom. Absolutely no texting is allowed during class. Any use of electronics beyond their permitted use is a disruption to the class and will be treated accordingly. ABSOLUTELY NO ELECTRONIC DEVICES OF ANY KIND ARE PERMITTED DURING EXAMS.
Grading Policies

Your final grade will be based on chapter quizzes, two exams, participation in class activities, attendance to in-class lectures, and the applied environmental geosciences assignment.

Grades will be calculated as follows:

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<tr>
<th>Component</th>
<th>Percentage of Total Grade</th>
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<tbody>
<tr>
<td>Attendance and participation (Including in-class activities)</td>
<td>20%</td>
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<tr>
<td>Applied Environmental Geosciences Project</td>
<td>20%</td>
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<tr>
<td>Chapter quizzes (on Blackboard)</td>
<td>20%</td>
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<tr>
<td>Celebration of Knowledge I</td>
<td>20%</td>
</tr>
<tr>
<td>Celebration of Knowledge II</td>
<td>20%</td>
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Quizzes and Exams:
The chapter quizzes to be completed on Blackboard will consist primarily of multiple-choice questions from the assigned chapter readings. Exams will be primarily multiple choice questions and will cover the reading materials and topics listed in the schedule. There are times when material we cover in class will not be covered in the textbook. Anything that is discussed in-class is fair game for the exams; therefore, your attendance, attentiveness, and participation at in-class lectures will be extremely important to your success in the course.

**ELECTRONIC DEVICES OF ANY KIND ARE PROHIBITED DURING EXAMS.** Violation of this rule will result in an automatic grade of zero (0) for the exam, and the possibility of further disciplinary action.

Incompletes

I do not give incompletes (IN) except under the most extraordinary and documented medical emergencies. No late assignments (including examinations) will be accepted. Without a valid medical excuse, students will receive a grade of zero (0) on any test not taken or assignment missed.

If, for a valid medical emergency, you do miss an exam or assignment, you must contact me within 48 hours of the missed exam and present acceptable documentary evidence for your absence. If I approve a make-up exam, it will cover the same material as the regular exam but will not be the same exam that was administered as scheduled.

**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.

**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 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.

**Blackboard** will be used as a communication tool for this course. Any announcements will be posted regularly and important documents, including the syllabus and assignment instructions, will be posted and available for student reference. It is each student’s responsibility to ensure that they have access to the course Blackboard site and to check it regularly for notifications and announcements.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Required Reading</th>
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| Feb 3  | Course Introduction, Introduction to Environmental Science and Sustainability  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 2-22 (Chapter 1) |                                                                                                                                                  |
| Feb 10 | Earth’s Physical Systems: Matter, Energy and Geology  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 23-49 (Chapter 2) |                                                                                                                                                  |
| Feb 17 | Species Interactions and Community Ecology  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 107-135 (Chapter 4) |                                                                                                                                                  |
| Feb 24 | Environmental Systems and Ecosystem Ecology  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 107-135 (Chapter 5) |                                                                                                                                                  |
| March 2 | Human Population  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 196-222 (Chapter 8) |                                                                                                                                                  |
| March 9 | Celebration of Knowledge I  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 343-368 (Chapter 13) |                                                                                                                                                  |
| March 30 | The Urban Environment: Creating Livable and Sustainable Cities  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 369-399 (Chapter 14) |                                                                                                                                                  |
| April 6 | Environmental Health and Toxicology  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 400-459 (Chapters 15 and 16) |                                                                                                                                                  |
| April 6 | Freshwater Systems and Resources and Marine and Coastal Systems and Resources  
* Required Reading:  
  San Francisco: Benjamin Cummings. pp. 400-459 (Chapters 15 and 16) |                                                                                                                                                  |
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<tr>
<td>May 4</td>
<td><strong>Applied Environmental Geoscience Assignment Presentations</strong>&lt;br&gt;Course Wrap-up and Review</td>
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<td>May 11</td>
<td><strong>Applied Environmental Geoscience Assignment Presentations (cont’d)</strong></td>
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<td>May 25</td>
<td><strong>Celebration of Knowledge II ....9am -11am</strong></td>
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