

Hunter College – CollegeNow - Summer II

GEOL 105: Intro to Environmental Geoscience – Nature & Environment in NYC & GEOG 211: Field Geography of NYC & Vicinity

Instructors:

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Prerequisite: CollegeNow attendance, you must register for both courses

Course Description:

This course will describe the basic geological, climatological and environmental principles and elements that shape and determine our surroundings.

This class will help you develop an appreciation for the interdisciplinary nature of environmental issues as well as helping you understand and integrate concepts regarding the interconnected nature of environmental issues. You will be taught to conduct research in a group setting as well learn to think critically about, and analyze problems. You will become skilled at evaluating data and statistics dealing with environmental change. During the semester you will critically analyze major environmental issues at the global and local scales and reflect on the impact this has on your community.

Our objective is to focus on the past, current, and future nature and environment of the city of New York and the region and to understand what different forces that affect our environment, both natural as well as anthropogenic.

It is important to study these issues because the character of the physical environment of New York City is going through a tremendous transformation as settlement intensification, climate change, and beginning attempts at sustainability planning are proceeding concurrently.

The lectures will be reviewed and reinforced with lab exercises as the different topics covered are highlighted with hands-on experiments and research, such as water quality testing and GIS mapping. The class will also benefit from guest lecturers who are experts in their fields, and further enrichment and reinforcement of concepts will be provided through field trips to observe the environment that we are studying.

Required Readings:

Berg, Linda R, and Hager, Mary Catherine – Visualizing Environmental Science., John Wiley & Sons Inc. , 2007
McCully, Betsy – City at the water's edge: A natural history of New York, Rutgers University Press, New Jersey, USA

Owen, Pirie, Draper - Earth Lab manual – Exploring the Earth Sciences, 2nd ed.

Other readings might be assigned based on current events

Recommended Reading:

Ascher, Kate – The Works: Anatomy of a City, Penguin Group, 2005

Attendance Policy:

You must attend all lectures, labs and field trips. Attendance will be taken daily at the beginning of each session. Excessive absences as well as tardiness will have a negative impact your grade.

Technology Policy:

During class time (lecture, lab or field trips) there will be absolutely no cell phone use (talking, texting, emailing, IM-ing, etc). No iPods or other musical devices will be allowed. In the computer lab or library, all computer use

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will be limited to class work. You will be reminded of the policy once, after that you will be asked to leave the classroom, and will receive a grade of zero for all of that day's work as well as for attendance.

Please be advised that 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.

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.

See the following report by the Hunter College Senate for more details:

<http://www.hunter.cuny.edu/senate/assets/Documents/Hunter%20College%20Policy%20on%20Academic%20Integrity.pdf>

Hunter College, Summer II - July 19th - August 22nd, 2007

GEOL 105: Introduction to Environmental Geoscience – Nature and Environment in New York City

3 credits

M-Th 9:30 – 12:00

Lecture Topics

Week 1:

- 7/19 Introduction to Environmental Geosciences
- 7/23 Earth's lithosphere: minerals, rocks and soils
- 7/24 Geologic framework of time McCully Chapter 2 & 3
- 7/25 The geologic history of New York City - local/regional geology McCully Chapter 2 & 3
- 7/26 Plate tectonics

Week 2:

- 7/30 Local and regional hydrology and water supply – rivers, lakes and wetlands of the region
- 7/31 The Atmosphere; **Exam 1: Geological Sciences** Chapter 8 & 9
- 8/01 The Hydrosphere, Chapter 11
- 8/02 Human influences on the air and atmosphere – climate change, urban heat island, air quality Chapter 8 & 9

Week 3

- 8/06 The Earth's Ecosphere; **Exam 2: Atmospheric Sciences** Chapter 5 & 6
- 8/07 Human population change; Chapter 7
- 8/08 Local and regional flora & fauna – Aliens and returnees, McCully Chapter 9
- 8/09 American Museum of Natural History

Week 4:

- 8/13 Agriculture; **Exam 3: Ecology** Chapter 14
- 8/14 Inflows and outflows: Water, sewage and waste – Where does it come from? Where does it go? Chapter 10 & 16
- 8/15 Coastal ecosystem – The city by the coast Pelham Bay Park
- 8/16 Renewable energy resources – Chapter 17 & 18

Week 5:

- 8/20 Urbanization and suburbanization – Why do cities exist? What do they look like? How do they grow? **Exam 4: Urban Problems**
- 8/21 Open space – sprawl, parks, conservation and preservation Chapter 13 & 3
- 8/22 Environmental ethics and environmental justice Chapter 2 & 3

Grading:

Grades will be based on the following set of assignments and responsibilities.

- Exams/Quizzes 55 %
- Class participation 15 %
- Assignments 30 %
- Attendance 5 %

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GEOG 211: Field Geography of New York City and Vicinity 3 credits

M-Th 1:00 – 3:50, Field trips TBA

Lab topics/schedule

Week 1: Geology labs

- 7/19 Thursday: Introduction to lab concepts and materials, Research Library Seminar
- 7/23 Monday: Rocks and minerals
- 7/24 Tuesday: Geologic time and dating
- 7/25 Wednesday: Field trip to Central Park
- 7/26 Thursday: Plate tectonics

Week 2: Weather and climate labs

- 7/30 Monday: Field trip – Constitution Marsh – leaving at 8:30 from Hunter College
- 7/31 Tuesday: Winds and weather
- 8/01 Wednesday: Atmospheric moisture
- 8/02 Thursday: Severe weather - Forecasting and tracking

Week 3: Environmental quality labs

- 8/06 Monday: Solid waste and recycling
- 8/07 Tuesday: Pollution in the city
- 8/08 Wednesday: Water and soil sampling and testing
- 8/09 Thursday: American Museum of Natural History

Week 4: Urban Impacts

- 8/13 Monday: GIS Lab – Agricultural systems
- 8/14 Tuesday: GIS Lab – TBA
- 8/15 Wednesday: Field Trip – Pelham Bay Park: The urban coastline
- 8/16 Thursday: Weather stations and data collection - Hunter College Department of Geography's weather station lab

Week 5: Shaping the urban system

- 8/20 Monday: GIS Lab – Defining the metropolis
- 8/21 Tuesday: GIS Lab – TBA
- 8/22 Wednesday: Course review and reflections – Final Lab Quiz

Grading:

Grades will be based on the following set of assignments and responsibilities.

- Labs/Quizzes 75 %
- Class participation 10 %
- Assignments 10 %
- Attendance 5 %