

BIOLOGY 4913
URBAN ECOLOGY
 Summer I. 2008

Instructor	Daniela Shebitz, Ph.D.	
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	Office Location: C132	
Class Meeting Times	Friday 9:30am-3:30pm	
Required Text	Handout of readings	

COURSE OVERVIEW

This is an interdisciplinary course using field trip and other experiential learning components to understand global ecological issues for students in various majors. Emphasis will be on disruptive effects on the environment and methods being used locally to limit these effects. Pollution, endangered species, invasive species, and human population pressures such as energy use, recreation impacts and development will be examined.

Upon successful completion of the course, you will be able to:

1. describe the global urban ecological issues that are a concern now and will need to be addressed in the coming decades.
2. evaluate first-hand the problems and consequences of humans becoming the dominant organisms in the natural environment.
3. make recommendations regarding further actions based on their knowledge of how global ecological issues are being solved on the local level.
4. apply scientific knowledge and methods in analyzing different aspects of environmental issues into your area of study.

CLASS SCHEDULE

This course is unique in that it generally meets once a week for six weeks. That means that we should cover an entire semester's worth of material in six meeting times! It is also unique in that much of the material will be taught through field trips and meetings with local experts. When the field trip location is relatively far (such as the Atlantic City Wind Farm), we will not be having lecture that week in the classroom, but will be using our travel time for discussion. Other than the first day, there will not be a lunch break. Therefore, you are responsible for bringing your own lunch to each week's class. We will likely either be eating in the van or in a picnic once we get to our site.

REQUIREMENTS AND GRADING

The grade in this course is based heavily on active participation in class discussion and field trips.

Grading will be based on the following:

- **Homework assignments 4 at 10% each = 40%**
- **Attendance and participation in discussions 20%**
- **Final presentation and report 40%**

I will assign final grades as follows:

94%	A
90%	A-
87%	B+
83%	B
80%	B-
75%	C+
70%	C
60%	D
< 60%	F

Attendance. Since this class is only over a six week period, attendance is extremely important each class period. The field trips that we have arranged depend on the entire class attending. Attendance and participation count for 20% of your grade.

Deadlines. Assignments (reports, etc.) are to be handed in on or before their due dates. For each day late, I will deduct 20% off the assignment grade.

Email Correspondence: While I will check my email each day, do not expect an immediate response in the evenings or on the weekends.

Assignments

Homework Assignment #1

After visiting Newark with Parks for People, you should have a better understanding of the importance of parks for human and environmental health in an urban setting. Your first assignment is to visit a park that is in your neighborhood. Write a report discussing people's behavior in the park and how it is influenced by the setting. Also discuss what would you do, if you were redesigning the park, to enhance the diversity of the people visiting the park, as well as the diversity of the species within the park (2-4 pages).

Homework Assignment #2

On our trip to Atlantic City, we will see not only sources of energy (wind) but also see where much of the urban center's waste ends up (recycling, compost, and landfill). Your second assignment is to conduct an energy and waste audit of

somewhere you spend much of your time. Your area of focus could be your home, your school, office, coffee shop, restaurant, library, etc. First, determine where much of the energy required for the area is spent, and where the most waste is generated. Then research ways in which this usage and waste can be minimized. Finally, conduct a cost/benefit analysis of changing the area to be more “sustainable” (2-5 pages).

Homework Assignment #3

After visiting the organic farm in class, you hopefully will gain an appreciation of where your food comes from and the benefits and consequences of growing food organically. Your third homework assignment is to visit a local farmer’s market (a list of markets will be provided) and to have conversations with the farmers and shoppers at the market regarding why they choose to sell/buy food at a farmer’s market as opposed to a supermarket, what are the challenges faced by them when either growing the food or buying from the market, and any other questions you come up with. Write up your observations and discussions in a 2-4 page report.

Homework Assignment #4

Your fourth homework assignment is based on your experiences with BioBlitz and the lecture on urban biodiversity. You are to visit a local greenspace (can range in size from 10 to 2000 acres) and conduct a preliminary inventory of the species present from one of the following groups: birds, mammals, herbaceous plants, trees, aquatic plants, insects, fungi, or reptiles and amphibians. You will likely have to use a field guide to help in identification. After conducting the inventory, you are to discuss in 1-2 pages what you perceive to be the greatest threats to biodiversity in this area. You may work in pairs for this assignment if you choose an area with a high number of species.

Final Report and Presentation

Your final report is to research the history of urbanization in a city or town of New Jersey (make sure that no one else in the class has chosen that area) and discuss current situations that the city/town is currently facing due to urban development. You will likely have to visit the town hall, library, or archival office to look up archives, maps, etc.

Presentations should be 15-20 minutes each and highlight your findings. You may also present suggestions that you have to solve some of the city/town problems. There is no page length requirement for the report, as long as it is clear that you conducted a thorough study and have a strong understanding of the city/town historical and present conditions.

I suggest that you start research for this project as early as possible. It can be quite easy to lose track of time when you find yourself engrossed in research. **BE SURE TO CITE EACH OF YOUR SOURCES!!!**

TENTATIVE COURSE SCHEDULE

Date	Topic	Field Trip Location	Readings and Assignment
May 23	Lecture: History of Urbanization in New Jersey Field Trip: Parks and Recreation	Newark Parks for People	"Newark Goes for the Green" in <i>Land and People</i> <i>Assignment 1 due next week</i>
May 30	Field Trip: Energy and Waste Management	Atlantic City Wind Farm and Incinerator	<i>Assignment 2 due next week</i>
NOTE	<i>We will be arriving back at campus after 4:00 on May 30th</i>		
June 6	Lecture and Field Trip: Feeding the world's growing human populations	Genesis Farms	<i>Assignment 3 due next week</i>
June 13	Lecture: Biodiversity in Urban Areas	BIOBLITZ THIS WEEKEND	<i>Assignment 4 due next week</i>
June 14	BIOBLITZ at Kean University and Elizabeth River Parkway: All must participate		
June 20	Field Trip: LEED Certification, Environmental Education, and Urban Wetland Management and Function	Meadowlands Environmental Education Center and a boat ride with the Hackensack Riverkeepers	Solid Waste Management in "The Garden State" in NJ Environments <i>Final Presentation next week</i>
June 27	Field Trip: Restoration PRESENTATIONS IN CLASS	Elizabeth River Parkway	