

PRINCIPLES OF ECOLOGY
ENV1020, GT13B MW: 1:15-2:55, Room 511
Baruch College, SPRING 2008

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I also answer e-mail and phone calls promptly.

Required Reading:

Santos, Miguel A. 2004. *Principles of Ecology*. Pearson Custom Publishing. 189 pp.

Course Description:

This course brings together the 1) conceptual framework of ecology, 2) major ecological issues, and 3) skills needed for scientific study. Ecology is broadly defined as the study of relationships between living organisms and their biotic and abiotic environment. Scales of ecological inquiry addressed in this course range from genes, individuals, and populations to communities, ecosystems, and landscapes. Lectures stress the importance of ecology for conserving biodiversity and environmental quality, and draw heavily on examples from both NYC and tropical ecosystems in the developing world. Laboratory exercises include study of materials recycling and energy flow, effects of environmental stress, population growth, carrying capacity, developmental changes in ecosystems, and a field trip to a local ecosystem.

Required Field Exercise:

You will be required to visit Jamaica Bay Wildlife Refuge once during the semester in lieu of certain lab periods (see schedule). Jamaica Bay contains exemplary, diverse habitats of the eastern US all within the city limits of New York, including salt marshes, upland forest and grassland, freshwater ponds, and an open bay. Professors teaching ENV1020 will be at Jamaica Bay on certain weekend dates, but you also have the option of visiting the refuge on your own. See the handout for full details on the assignment.

Grading:

Lab projects / activities:	150
Laboratory Exam I:	125
Laboratory Exam II:	125
Participation:	50
Total:	1000

Baruch College Attendance Policy (Undergraduate Bulletin, p. 41):

“All students are required to attend every session of their courses. If a freshman or sophomore is absent in excess of twice the number of class sessions per week, the instructor must give the student a WU grade, which counts as an F. The instructor may give a junior or senior a WU grade (the equivalent of an F) for excessive absences. The WU grade may be given by the instructor at any time.” Absences should only be for serious illnesses and family emergencies.

Course Schedule:

M/W	Laboratory Topics	Chapter
M 1/28	Science, Observation & Microscopes	1
W 1/30	Measurement	handout
M 2/04	Saline Environments	11
W 2/06	Lethal Dose (LD50) of Copper Sulfate in <i>Daphnia</i>	handout
M 2/11	NO LAB	
W 2/13	Environmental Chemistry	4
W 2/20	Experimental Design / Environmental Contamination	handout
M 2/25	Experimental Design / Environmental Contamination	handout
W 2/27	Evolution and Ecology	24
M 3/03	Ecological Roles of Microorganisms	7
W 3/05	Ecological Roles of Fungi & Plants	8
M 3/10	Ecological Roles of Animals	9
W 3/12	Review for 1 st Exam	
M 3/17	Lab Exam I	
W 3/19	Ecological Aspects of Photosynthesis	10
W 3/26	Student Presentations	
M 3/31	Competition: Materials and Methods	13
W 4/02	Adaptations Associated With Feeding	14
M 4/07	Commensalism and Mutualism	15
W 4/09	Population Growth	16
M 4/14	Mark-Recapture Analysis for Population Density	handout
W 4/16	Population Structures & Distribution	18
M 4/28	Intraspecific Competition	21
W 4/30	What is biodiversity? Spiders as exemplars	handout
M 5/05	Ecological Succession	23
W 5/07	Lab Exam II	
M 5/12	FIELD TRIP / FREE TIME	
W 5/14	FIELD TRIP / FREE TIME	
W 5/21	Jamaica Bay Assignment Due	