

Environment 121

Conservation of Biodiversity

Spring 2007

INSTRUCTORS:

Professor Thomas B. Smith
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Professor Victoria Sork
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Office Hours: Tuesdays, 10:00 am-11:00 am
Tuesdays, 1:30 pm-2:30 pm

TEACHING ASSISTANT:

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Office Hours: TBA

MEETINGS:

Lectures: Tuesdays and Thursdays, 11:00 am-12:15 pm in Kinsey Pavilion 1220B
Discussions: Attendance required at one session per week.
Section 1A, Mondays, 11:00 am-12:50 pm in Math Sciences 5225
Section 1B, Tuesdays, 1:00 pm-2:50 pm in Bunche Hall 2173

DESCRIPTION:

The course will introduce the concepts and strategies important in addressing biological conservation and sustainable management of natural and managed ecosystems. The main course elements and objectives are: 1) to provide a basic understanding of the ecological, evolutionary, and genetic principles necessary to understand biological diversity, 2) to describe and evaluate the threats to natural habitats, including landscape alteration, fragmentation, and destruction, overexploitation of natural resources, and ecosystem changes caused by pollution and global warming, and 3) to explore integrative approaches for addressing solutions to the conservation of biodiversity. Ecological concepts and recent research results are discussed in a sociopolitical, economic, and policy context in order to convey to students the complexity of conservation.

COURSE OBJECTIVES:

This course will provide a basic grounding in the field of conservation biology. It presents a basic conceptual framework for examining the interrelation of natural biotic and human systems. It describes the distribution of biodiversity and the natural processes that maintain it. Studies will critically analyze various levels of threats and the multidimensional challenges required for mitigating threats. The primary student outcome is to educate citizens to assess and support effective conservation strategies and policies.

REQUIRED TEXTBOOK AND SELECTED READINGS:

Primack, R. B. 2004. *A Primer of Conservation Biology*. Third Edition, Sinauer Associates, Inc., Sunderland, Massachusetts. 319 pages.

Selected Readings: Selections of readings will be taken from a variety of recent publications and will be available to students in a compiled reader that can be purchased at:

Westwood Copies

1001 Gayley Ave. (near Gayley and Weyburn)

Open Monday-Friday 8:30 am-8:00 pm and Saturday 9:00 am-5:00 pm

Phone: 310-208-3233

COURSE REQUIREMENTS:

1. Two examinations. Exams will be a mixture of short and long answer questions based on lectures, assigned readings from lecture, and discussions. Be prepared for definitions, problems from lecture, and case studies.
2. Two mini-papers: (Details and due dates to be announced)
3. Participation in discussion of weekly reading assignments.

GRADING BASIS:

Midterm	30%
Final	30%
Mini-papers	5%, 15%
Discussion	20%

Final Exam:

Wednesday, June 13, 2007: 11:30 am-2:30 pm

COURSE SCHEDULE

<u>Lecture</u>	<u>Topic</u>	<u>Reading</u>
Tues Apr 3	Introduction to conservation (Sork)	Chapter 1
Thurs Apr 5	What's at stake? (Sork)	Chapter 2
Tues Apr 10	Value of biodiversity; intrinsic and extrinsic value (Smith)	Chapter 1
Thurs Apr 12	What is biodiversity and its global distribution? (Smith)	Chapter 2
Tues Apr 17	Demography of populations (Sork)	Chapter 3
Thurs Apr 19	Metapopulations in changing landscapes (Sork)	Chapter 3
Tues Apr 24	Historical extinction rates (Smith)	Chapter 1
Thurs Apr 26	Current rates of extinction and habitat destruction (Smith)	Chapter 3
Tues May 1	Fragmentation, habitat degradation, overexploitation, invasive species, and disease (Smith)	Chapter 3
Thurs May 3	Midterm examination	
Tues May 8	Global climate change, PART I (Smith)	
Thurs May 10	Global climate change, PART II (Smith)	
Tues May 15	Conservation genetics of small populations (Sork)	Chapter 3
Thurs May 17	Dispersal and adaptation (Sork)	Chapter 3
Tues May 22	Human populations (Smith)	
Thurs May 24	Island systems (Smith)	Chapter 2
Tues May 29	Public lands as reserve networks (Guest speaker)	Chapter 4
Thurs May 31	Design of nature reserves (Sork)	Chapter 4
Tues Jun 5	Habitat conservation plans (Sork)	Chapter 4
Thurs Jun 7	Conservation case studies (Sork)	Chapter 5
Wed June 13	Final Exam, 11:30 am-2:30 pm	