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BIO 320-01, Principles of Conservation Biology, Spring 2009

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PRINCIPLES OF CONSERVATION BIOLOGY - BIOL 320 and 320L

Spring 2009

TTh, 9:30-10:45am – Palmer Hall 208
Lab: Monday 1:00 to 3:30pm – FJ 145W

Dr. Rosanna Cappellato

Office phone: 843-3081

Email: cappellator@rhodes.edu

Office hours: (FJ 136E) T and W 1:00-3:00pm

Course Description and Objectives

Conservation biology is an interdisciplinary science that deals with the conservation of biological diversity at gene, population, species, and ecosystem levels. The main objectives of this course are learning the theories and practice of conservation biology and critically evaluating strategies adopted to prevent loss of biodiversity. To better understand the need for an interdisciplinary approach to solving conservation problems, the social and economic issues influencing the protection of biodiversity will be integrated in the course. Laboratories and field work are designed to make you familiar with some of the research methods and tools used by conservation biologists.

Presentations

Each of you will give a 15/20 minute long presentation on a case study illustrated in the textbook. Your powerpoint presentation should focus on the analysis and significance of the case study in the context of the larger conceptual issues of conservation biology. Therefore you need not only to study carefully the issue but also **expand** on it by reading additional literature on your topic. An outline (or a handout of your powerpoint presentation) and a complete list of reference should be provided to the class, who will evaluate your presentation.

Project and Poster

Students in groups of two will work on a research project using data collected in the field. A proposal for the project is due on February 16th, 2009. After having discussed your proposal with me, you will present it to the class on February 23rd, 2009. The purpose of the research is for you to become familiar with methods used by conservation biologists and with the process of formulating recommendations based on research results. Each group will prepare a poster of their research project. This poster will be presented to the class on April 27th and to URCAS on May 1st.



Exams

There will be three exams composed of essay questions. Answering the questions will require a good understanding and integration of the basic principles of conservation biology. Taking notes in class and reviewing the powerpoints will help you to do well in the exams.

Laboratory

You are expected to read the assigned papers, attend all laboratories, and work on assigned exercises. If you miss more than 2 labs classes, you will receive no points for participation.

Laboratory assignments, as indicated in the schedule, will be due on Mondays at the beginning of the lab session. Late work will be accepted but penalized 10 points for every day it is late.

Text

Groom M.J., Meffe, G.K. and C.R. Carroll. 2006. *Principles of Conservation Biology*. Third Edition. Sinauer Associates, Sunderland, MA

Grading:

Your grade will be determined by the total number of points accumulated in both the lecture and laboratory sections of the course. The same letter grade will be assigned for both the BIOL 320 and 320L courses.

Class Participation	20
Peer-evaluations	20
Project Proposal	20
Project Presentation	20
Poster	50
Exams (Three, 100 pts each)	300
Laboratory Assignments (Three, 40 pts each)	120
Laboratory Exercises	20
	<hr/>
	570 pts



CLASS SCHEDULE

(subject to change)

		TOPICS	Presentations	Readings
Th	Jan 15	Intro to Conservation Biology		Ch 1
T	20	What is Biodiversity		Ch 2
Th	22	Species vulnerability - Amphibian	Killer Whales, p.66	Ch 3
T	27	Ethics	Monarch Butt., p. 79	Ch 4
Th	29	Economics and Biodiversity		Ch 5
T	Feb 3	Habitat Degradation	Endocrine disrupters, p. 195	Ch 6
Th	5	EXAM 1		
T	10	Habitat Fragmentation	Aquatic fragment., p.243	Ch 7
Th	12	Overexploitation	Sharks, p. 278	Ch 8
T	17	Invasives	Aquatic invasives, p. 323	Ch 9
Th	19			
T	24	Conservation Genetics	Genetics of Salmon, p. 407	Ch 11
Th	26		Grizzly Bear, p. 404 Pinguins, p.447	
T	March 3	Population Approach	Migratory songbirds, p. 449	Ch 12
Th	5	Landscape Approach		
T	10	Ecosystem Approach	Coral Bleaching, p. 493	Ch 13
Th	12	EXAM 2		
	16-20	<i>Spring Break</i>		
T	24	Endangered Species Act – BF Ferret		p.581
Th	26	Restoration	North Creek, p. 574	Ch 15
T	31	<i>Discussion:</i> The Everglades		p.502
Th	April 2	ZOOS		
T	7		Puerto Rican parrot, p. 586	
Th	9	<i>Easter</i>		
T	14	Protected Areas	Donana Park, p.536	Ch 14
Th	16			
T	21	Biodiversity and Global Change	Coastal lands, p. 366	Ch. 10
Th	23	Conservation in LDCs	Harpy Eagle, p.559	Ch. 16
T	28	Conservation Challenges		Ch 18
Th	30	Take-home Final Exam		
F	May 1	URCAS		

CONSERVATION BIOLOGY LABORATORY

Lab TA: Lauren Lambeth – lamjl@rhodes.edu

Monday 1:00 – 3:30 pm
FJ Room 145

Date		Lab Reports
January 19	<i>No Lab</i>	
January 26	Overton Park: Biodiversity	
February 2	Biodiversity	
February 9	Population Genetics: Populus	Ass. 1
February 16	Populus	Proposal due
February 23	Proposal presentation	
March 2	Pop. Viability Analysis	Ass. 2
March 9	Pop. Viability Analysis	
March 16	<i>Spring Break</i>	
March 23	Memphis Zoo	Ass. 3
March 30	Molecular genetics and conservation	
April 6	Molecular genetics and conservation	
April 13	Project	
April 20	Project	
April 27	Poster Presentation to the class	Poster
May 1	URCAS	
***March 25	<i>URCAS abstract submission deadline</i>	

PRESENTATIONS

Th	Jan. 22	Species vulnerability	Killer Whales, p.66	
T	27	Ethics	Monarch Butt., p. 79	
Th	29	Economics and Biod		
T	Feb 3	Habitat Degradation	Endocrine Disrupters, p. 195	
Th	5	EXAM 1		
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T	24	ESAct		
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