

BIOL 5534.01

Conservation Biology

Spring 2011

Class meetings: Mondays 7:00 – 9:50pm; Bayou Building 1435

Instructor: Dr. Cindy Howard

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Office hours: Mon and Wed 3-5pm; Thu 4-6pm; other times by appointment

Webpage: <http://sce.uhcl.edu/howard/>

Course text and materials

MacDonald, D.W. and K. Service, eds. 2007. *Key topics in conservation biology*. Blackwell Publishing, Malden, MA. 307 pp. ISBN 978-1-4051-2249-8.

PowerPoint slides for each lecture, as well as practice problems and other course information will be available at least one day before each class session at <http://sce.uhcl.edu/howard> under Courses: BIOL 5534.

Major sources for course material

Ecological Society of America. *Frontiers in Ecology and the Environment* (various issues).

Gibbs, J.P., M.L. Hunter, Jr. and E.J. Sterling. 2009. *Problem-solving in conservation biology and wildlife management*, 2nd ed. Blackwell Publishing, Malden, MA. 328 pp.

Hunter, M.L. and J. Gibbs. 2007. *Fundamentals of Conservation Biology*, 3rd ed. Blackwell Publishing, Malden, MA. 497 pp.

Moulton, M.P. and J. Sanderson. 1999. *Wildlife issues in a changing world*, 2nd ed. Lewis Publishers, Boca Raton, FL. 500 pp.

Pimm, S.L. 1991. *The balance of nature?* University of Chicago Press, Chicago, IL. 434 pp.

Primack, R.B. 2006. *Essentials of conservation biology*, 4th ed. Sinauer Associates, Inc., Sunderland, MA. 585 pp.

Reaka-Kudla, M.L., D.E. Wilson and E.O. Wilson, eds. 1997. *Biodiversity II: Understanding and protecting our biological resources*. Joseph Henry Press, Washington, DC. 551 pp.

Wilson, E.O., ed. 1988. *Biodiversity*. National Academy Press, Washington, DC. 521 pp.

Prerequisites

Course work in ecology (BIOL 4131 or equivalent).

Course objectives

To provide students with an in-depth study and analysis of the major concepts governing conservation biology, including species, genetic, population and ecosystem diversity issues, endangered species, invasive species and case studies related to human impacts on ecological systems and the earth's biodiversity.

Learning outcomes

Upon successful completion of this course, students will be able to analyze and evaluate current research in conservation biology, to articulate and discuss debatable views on biodiversity issues, human impacts on biodiversity and natural systems, and apply this knowledge to specific examples within their chosen fields.

Course format

This course investigates the biological, physical and anthropogenic forces shaping the earth's ecosystem, population and genetic biodiversity. Current and historic issues surrounding endangered species and the conservation of the earth's biological diversity will be explored through informal lectures, review of case studies, research literature, student presentations and class discussions of issues relating to conservation biology.

Evaluation

(A, B, C)	Preparation / participation in group roundtable discussions (3 @10% each)	30%
(D)	Term paper #1: summary of current issues in conservation biology and biodiversity	40
(E)	Endangered species status report / presentation	20
(F)	Invasive species status report / presentation	20
(G)	Case study issue report / presentation	50
(H)	Term paper #2: final summary of issue paper discussions	<u>40</u>
		100%

Grading scale:

A	92-100%	B-	78-79%	D+	66-67%
A-	88-92%	C+	76-77%	D	60-65%
B+	86-87%	C	70-75%	D-	58-59%
B	80-85%	C-	68-69%	F	<58%

Standards for grades pertaining to graduate work (from UHCL catalog):

- Performance in the range of "A" represents exceptional scholarship and intellectual initiative in accomplishing graduate level course goals and objectives.
- Performance in the range of "B" represents competent achievement in accomplishing graduate level course goals and objectives.
- Performance in the range of "C" represents the minimally acceptable performance in accomplishing graduate level course goals and objectives.
- A "D" or "F" performance represents unsatisfactory or below minimally acceptable performance in accomplishing graduate level course goals and objectives.

Class attendance

Class attendance is strongly recommended. Handout materials and reading assignments will be available for students who miss class; however, a significant portion of the grade in this class will be based on preparation and participation in group discussions and/or in summary term papers based on presentations made in class.

Information on university closures due to weather or other events can be obtained from the UHCL hotline (281-283-2221) or <http://www.uhclemergency.info/go/site/1522/> .

The course instructor may send messages to students during the semester regarding class schedule updates or changes, using the students' university email accounts.

Incompletes and withdrawals

The last date to drop this course without a grade penalty is **March 28, 2011**. In accordance with UHCL policy, an incomplete grade (I) can only be assigned if the student is making satisfactory progress, but cannot complete the course for a documentable reason.

Academic honesty

Please review the UHCL Academic Honesty Policy in the current UHCL catalog. Every student enrolled in this class is expected to abide by the UHCL Honesty Code, which states, "I will be honest in all my academic activities and will not tolerate dishonesty." Your participation in this class constitutes your acceptance of the UHCL

Academic Honesty Policy. Dishonesty of any kind (e.g., plagiarism, cheating on exams) is not acceptable in this course. It can result in a grade of “F” on an assignment or test, a grade of “F” in the course or suspension from the university (see catalog). Your written work may be checked for plagiarism at any time. The full UHCL Academic Honesty Policy can be found at http://prtl.uhcl.edu/portal/page/portal/PRV/FORMS_POLICY_PROCEDURES/STUDENT_POLICIES/Academic_Honesty_Policy.

Special academic accommodations

Students requiring special academic accommodations with regard to exams, etc. should contact the Disabilities Services Office at 281-283-2627 (<http://prtl.uhcl.edu/portal/page/portal/UAO>).

Electronics

Use of cell phones, pagers, PDAs, laptop / notebook computers or similar electronic devices is generally not permitted during class periods. Exceptions may be made on a per class period basis and must be cleared with the course instructor prior to the start of class.

Special note for new graduate students

Acceptance into the master’s degree program in the School of Science and Computer Engineering at UHCL is a two-step process. Each of you in the class has completed at least the first step: acceptance to UHCL (automatic if you have a bachelor’s degree from an accredited institution) and approval to enroll in classes. The second step is acceptance into a specific degree program (e.g., Biology, Environmental Science or Chemistry). Each program has a graduate admissions committee that will review your complete file (all transcripts and GRE scores) and decide on your acceptance into the program. Following acceptance, you will be assigned a faculty advisor who will assist you in completing your Candidate Plan of Studies (CPS).

If you are planning to work on a master’s degree in one of the SCE programs, it is very important that you complete your file and be evaluated by the admissions committee as early as possible in your UHCL career. If you complete more than 9 hours (3 courses) prior to your acceptance into a program, there is no guarantee that any more than 9 hours will be counted toward your degree.

BIOL 5534.01**Conservation Biology****Spring 2011****Schedule (*this is a new course – a work in progress and subject to revision as we go*):****Mondays 7:00-9:50pm****Bayou Building 1435**

Date	Topic	Assignments
01/24	Course introduction	
01/31	Conservation biology; Conservation ethics; Ecosystem services Conservation biology roundtable discussion	Reading set #1
02/07	Species, genetic and population diversity; Measurement of biodiversity	Reading set #2
02/14	Species diversity roundtable discussion	Reading set #2 group presentations (A)
02/21	Ecosystem diversity; Ecoregions and biodiversity hotspots	Reading set #3
02/28	Ecosystem diversity roundtable discussion	Reading set #3 group presentations (B)
03/07	Extinction: historical, processes, anthropogenic causes	Term paper #1 due: summary of current issues in conservation biology and biodiversity (D) Reading set #4
03/14	Spring Break: no class	
03/21	Extinction roundtable discussion	Reading set #4 group presentations (C)
03/28	Endangered species roundtable discussion	Endangered species report due (E)
04/04	Invasive species roundtable discussion	Invasive species report due (F)
04/11	Case study presentations	Case study report due (G)
04/18	Case study presentations	
04/25	Case study presentations	
05/02	Case study presentations	
05/09		Term paper #2 due: final summary of issue paper discussions (H)

Topic Areas for Case Study Reviews and Presentations

Topic Area	Name
Built / cultivated ecosystems	
Conservation organizations	
International conservation policies	
U.S. conservation policies	
Fisheries overexploitation	
Integrated Pest Management versus pesticide use	
Pesticides versus beneficial species	
Tropical rainforest deforestation	
Desertification	
Effects of sport hunting versus subsistence hunting	
Habitat fragmentation	
Conservation in urban settings	
Wildlife and migration corridors	
Wetlands	
Effects of climate change on biodiversity	
Conservation economics	
Zoos and botanical gardens	
Conservation politics in the U.S.	
Ecosystem restoration / reserve design	
Conservation genetics	
Effects of human population growth on biodiversity	
Biodiversity of agricultural species	
Conservation of metapopulations	
Biodiversity versus occurrence of infectious diseases	
Biodiversity versus discovery of new medicines	
Role of education in biodiversity conservation	