Conservation Biology WIS4554/WIS5555c

INSTRUCTOR: Dr. Lyn Branch
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Office Hours: To be announced each year.
TEACHING ASSISTANT: To be announced each year.
CLASS LOCATION and TIME: Newins-Ziegler Hall, Room 112; Tuesday and Thursday, 9:00-10:25 except the first day of class we will meet at 8:30 and exams will be from 8:30-10:25. (Note: The classroom could change between years. Check the UF website for class locations).
COURSE TEXT: Groom, M. J., G. K. Meffee, and C. R. Carroll. 2006. Principles of Conservation Biology. Third Edition. Sinauer Press.

Final materials for the course each year will be on the class e-learning site. The information below is general to give you an idea of the class, but the specific topics covered may change some from year to year.

COURSE DESCRIPTION AND LEARNING OBJECTIVES

Conservation biology is an interdisciplinary science that focuses on conservation of biological diversity at gene, population, species, ecosystem, landscape, and global levels. This discipline develops scientific and technical means for protection, maintenance, and restoration of ecological and evolutionary processes as part of biodiversity conservation. This course provides an overview of the discipline including the causes and consequences of biodiversity loss, established and emerging conservation approaches and strategies, and the ecological and evolutionary theory that underlies these approaches. The focus of this course is on ecological and evolutionary dimensions of conservation, rather than human dimensions which are covered in other courses, though the human component is a central part of class discussions on biodiversity threats and complexities of implementing science-based conservation policy and management . The course combines lectures, readings, in-class discussion, and a variety of writing exercises, with a special emphasis on critical thinking, problem solving, and global understanding.

By the end of this course, students will be able to:

- Understand ecological and evolutionary principles that underlie biological diversity.
- Explain proximate and ultimate threats to biodiversity and consequences of biodiversity loss.
- Articulate the enormous responsibility humans have as global land stewards.
- Identify linkages among conservation problems across biological scales (genes to landscapes) and geographical scales (local to global).
- Demonstrate how ecological and evolutionary principles are applied to solving conservation problems.
- Apply critical reasoning skills to assessment, analysis, and synthesis of conservation problems and solutions.
- Demonstrate a greater understanding of conservation problems in countries outside the US, as well as in the US, and cultural differences in perceptions of problems and appropriate solutions.

Finally, the course should be FUN!

Course requirements for WIS5555c that differ from WIS4554 change from year to year. These will be announced on the first day of class and also will be reflected in the class website on e-learning. : Requirements are similar for WIS4554 and WIS5555 except for the following: 1) Students in WIS5555 are required to write a term paper. The paper is optional for students enrolled in WIS4554. 2)

WIS5555 exams will have more readings from the primary literature (in addition to the reading required for WIS4554/WIS5555). See below.

GRADING: A (94% or greater), A- (90%-93%), B+ (87%-89%), B (84%-86%), B- (80%-83%), C+ (77%-79%), C (74%-76%), C- (70%-73%), D+ (67%-69%), D (64%-66%), D- (60%-63%), E (<60%)

Important Dates and Deadlines: The course has three exams and several other assignments. See class e-learning site for a description of the assignments and due dates.

SCHEDULE OF TOPICS FOR THE COURSE

Below is an approximate schedule for course topics. Exact dates vary from year to year.

23-Aug Introduction to Course: What is Conservation Biology?
25-Aug What Is Biodiversity? Why Preserve Biodiversity?
30-Aug Vulnerability to Extinction and Rarity
1-Sep Extinction Processes -- deterministic and stochastic
6-Sep Spatially Structured Populations, Source-Sinks, and Spatial Regulation of Wildlife Harvest in Temperate and Tropical Systems
8-Sep Metapopulations
13-Sep Population Viability Analysis/Minimum Viable Populations
15-Sep Habitat Fragmentation and Edge
20-Sep Discussion of Peace Corps, applying for graduate school, and applying for jobs (for WIS 4554 primarily).
22-Sep First exam
27-Sep Review first exam, continue with Habitat Fragmentation and Edge.
29-Sep Finish Habitat Fragmentation and Edge
4-Oct Guest speaker
6-Oct Ecosystem and Adaptive Management
11-Oct Diversity at the Community (alpha, beta, gamma diversity) and Ecosystem Levels and Indicator Species
13-Oct Compositional, Structural, and Functional Diversity
18-Oct Guest Speaker
20-Oct Guest Speaker
25-Oct Focal Species, Ecosystem Engineers, and Keystone Species
27-Oct Second Exam
1-Nov Foundation Species and Ecologically Effective Population Densities
3-Nov Invasive species
8-Nov Review 2nd exam, start Cons. Planning pt. 1 - Global trends in protected area, types of protected areas, limits to conservation with protected areas.
10-Nov Finish Cons. Planning pt. 1 - Global trends in protected area, types of protected areas, limits to conservation with protected areas.
15-Nov Cons. Planning pt. 2 - Reserve selection, GAP, Paper parks
17-Nov Cons. Planning pt. 3 - MUM, Buffers, and Biosphere Reserves
22-Nov Cons. Planning pt. 4 - Conservation on Private Lands
25-Nov Discussion of Conservation Planning
29-Nov Connectivity and Corridors
1-Dec Design of Individual Reserves (SLOSS, etc.).
3-Dec Review and Wrap-up
Third (final) Exam – dates vary among years

REQUIRED READINGS

Readings required for both WIS4554 and WIS5555 are listed on the class e-learning site.

EXAMS: total 600

Each of the 3 exams counts 200 points and will be designed to be completed in approximately one hour. However, exams will start at 8:30 so that you have two periods (almost 2 hours) for each exam.

REDUCE/RECYCLE!! Please save paper on ALL written assignments. Use recycled paper if possible (e.g., use paper that has something else printed on the other side), use the entire page (e.g., don't make a title page or leave large amounts of blank space between paragraphs or sections), print on the back if you have a printer that will do this and if you can't use recycled paper. Please do not put your papers in folders, but please staple all pages of your assignments together so that they don't get lost!

JOURNAL ARTICLES: 50 points total (10 points per article)

Conservation biology is one of the most rapidly growing fields of science. One of the best ways to keep informed of new ideas, development of new tools, etc., is to read scientific journals. Two of the most important journals in the field of conservation biology are Conservation Biology (the journal of the Society of Conservation Biology) and Biological Conservation. In addition to learning about conservation biology from reading these journals, you can get ideas about jobs (e.g., organizations where people do work that interests you) and graduate programs (e.g., universities where researchers are conducting research on topics you would like to study).
For this exercise, you will examine any 5 issues of these journals, including some issues of each journal (e.g., 3 different issues of Conservation Biology and 2 issues of Biological Conservation). Read the most interesting article that you find in each of the 5 issues, for a total of 5 articles -- or more if you are motivated! You can find hard copies of the journals in the Marston Science Library or you can get them through the library on-line. You will write a short report on these articles. See e-learning site for details.

CURRENT AFFAIRS: 50 points total (10 points per article)

Each student will review 5 newspaper articles during the course of the semester that illustrate "real-life" examples of topics covered in class or in your book. See e-learning site for instructions.

EXTRA CREDIT SEMINARS: 5-15 points

The University of Florida is one of the outstanding centers in the USA for the discipline of conservation biology. Faculty and students from many departments conduct research on "cutting-edge" conservation issues and participate in development of conservation strategies at local, national, and international levels. Consequently, many opportunities exist for you to learn about conservation biology outside of class. One important resource is seminars given in a variety of departments (e.g., Wildlife Ecology and Conservation, Biology, Center of Latin American Studies, etc.). Up to 15 points extra credit will be given for attendance at these seminars, five points per seminar. These points will be added to your total points for the course. Numerous seminars will be announced in class. Please let us know when you hear about a good seminar! To receive credit for attending a seminar, you must prepare a one page summary. See e-learning site for instructions.

ADDITIONAL ASSIGNMENTS:

Each year one or two additional assignments may be added to the course. See the e-learning site for a description of these.

UF requires the following on all syllabi:

Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.
In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.
The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.
On all work submitted for credit by students at the university, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."
The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior. Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. (Source: 2007-2008 Undergraduate Catalog)
It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will be vigorously upheld at all times in this course.
Software Use:
All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.
Campus Helping Resources
Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health Services provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- University Counseling Center, 301 Peabody Hall, 392-1575, www.counsel.ufl.edu
- Career Resource Center, CR-100 JWRU, 392-1602, www.crc.ufl.edu/
- Student Mental Health Services, Rm. 245 Student Health Care Center, 392-1171, www.shcc.ufl.edu/smhs/

Alcohol and Substance Abuse Program (ASAP)
Center for Sexual Assault / Abuse Recovery & Education (CARE)
Eating Disorders Program
Employee Assistance Program
Suicide Prevention Program
Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.
0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/