

CONSERVATION BIOLOGY

FORESTRY 315 (3hrs)



Instructor: Dr. John J. Cox; 208 T.P. Cooper Bldg.; 7-9507; jjcox@uky.edu
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Office Hours: Tuesday 10:45-noon or by appointment is your best bet. Please just come by and knock on the door at other times if you want to discuss classroom topics, career or jobs, or related issues.

Date and Time: Tuesday and Thursday, 9:30-10:45 AM, Room 113

Course Description: This 3-hour credit, multidisciplinary course focuses on patterns of biological diversity, its change and loss in recent years (ca. 50,000 YA – present), and the creation of the discipline known as conservation biology formed in response to this perceived ecological crisis. We review the scientific evidence that illustrates recent rapid loss of biological diversity now confronting natural biological systems at multiple spatial and temporal scales and their causative factors, and we discuss various strategies for conserving biodiversity. Conservation biology is multidisciplinary in scope, and therefore we will discuss topics in fields of study that include wildlife management, restoration ecology, economics, ethics, geology, evolution, philosophy, phylogeny, taxonomy, genetics, behavioral ecology, population ecology, disease, sociology, sustainable living, and other human dimensions. Although many conservation topics are global in scope, North America, Kentucky, my current research projects, and well-studied case examples elsewhere will be used to support discussions.

Prerequisites: Bio 150 & 152, or consent of instructor

Texts: Leopold, A. 1949. A Sand County almanac. Oxford University Press, New York, NY. 228 pp.

Groom, M.J., G.K. Meffe, and C.R. Carroll. 2006. Principles of conservation Biology. 3rd Edition. Sinauer and Associates, Sunderland, MA. 793 pp.

Classroom Activities: In class activities will include lectures, discussions, group exercises, problem-solving, quizzes, video presentations, exams, and outside speaker presentations.

Attendance: Students will be expected to attend all sessions and attendance will be taken at the beginning of every class. Excused absences include sickness, death of family member, and others officially listed in UK regulations. Please provide me with advanced notice if you are going to miss class and legitimate documentation to support your excused absence when you return. If you miss class there is a high probability that you'll miss an assignment or quiz. Assignments and quizzes cannot be made up, but won't count against you if you have an excused absence. **For every 3 unexcused**

absences you will drop 1 letter grade since technically you'll have missed about 10% of the course sessions at that point. No exceptions.

Due Dates: Unless otherwise specified, all assignments will be due at the end of the class period on the date assigned for completion. Once the due date for a news review or major assignment (recovery plan, sustainable living plan) has passed it will no longer be accepted unless you have an excused absence. Printing and computer complications are not valid excuses for turning in late assignments. Please don't ask for exceptions.

Professionalism: You are young, aspiring professionals, and hopefully, eager students and engaged citizens, and my expectations of you will be just that. Engaging in conduct unbecoming a UK student (e.g. cheating, plagiarism, lying about your assignments or excuses or for others) are serious offenses that will lead to an E for the course. Please temporarily disconnect yourself from electronic media and connect yourself to the *present* moment. Cell phones, Blackberries, Droids, MP3 players, other PDAs, personal laptops, and robots are all prohibited devices in this class and during class-related activities on field trips. Text messaging, net surfing, playing electronic games, Facebooking, Ebaying, stock trading, communicating with the mother ship, etc. are all prohibited activities in this class. Sleeping in class, catatonic states, or counting water droplets from the air conditioner are measures that substantially increase the likelihood of a quiz.

Although conservation biology is a value-laden science, my goal is to try and convey the facts and concepts to you within the current political and sociological contexts of our society and others...not to politically indoctrinate you. Whatever your political, religious, philosophical, or other beliefs, my goal is to make you a better communicator through writing and speaking and thus more prepared to defend and advocate your positions. As such, in classroom discussions and activities please treat everyone with respect and as you would want to be treated. That doesn't mean discussions won't become lively, but we can debate and respectfully disagree with each other in a civilized manner during our discourse.

This is not exclusively my course nor yours, but *ours*. That means you need to be involved for it to be effective. Would you ask a new supervisor to compose a set of notes that summarized a meeting you just had? Effective note-taking is an important skill whether you are recording field data or verbal comments from an impatient group of stakeholders. I will often cover material not included in the texts. I encourage group study and note sharing, strategies that are often characteristic of many successful students.

Field Trips: Field trips are designed to provide you with opportunities to visit places, people, and organisms where biodiversity conservation is practiced through management, research, education, or other means. This is where your activity fee is put to good use.

There will be at least 2 Saturday field trips offered. Unless the weather is unusually bad we will go rain or shine. Transportation will be provided for at least 1 trip, possibly 2 depending on the distance/cost of the first (UK Arboretum, Lexington Cemetery, Carter Caves State Park, Red River Gorge, Kingdom Come State Park/bear denning, and Griffith Woods are possible options). If we go to the UK Arboretum which is on Alumni Drive and in walking distance of central campus, no transportation will be provided. Attendance on at least 1 of these field trips is mandatory, and you will earn **10 Bonus pts.** per additional field trip. Young natural resource/conservation professionals would be wise to take advantage of these kinds of opportunities. You must adhere to the UK drug policy on all field trips.

Course Evaluation/Grading: Evaluation (your grade) in this course is based on the total number of cumulative points (800 total possible) you receive for the listed assignments below:

A = 720-800 pts. B = 640-719 pts. C = 560-639 pts. D = 480-559 pts. E = < 480 pts.

Evaluation Criteria	Points Each	Total Points
Quizzes and Short Assignments (n = 10)	20	200
Sustainable Living Plan	100	100
Regular Exams (n = 3)	100	300
Comprehensive Final Exam	200	200
Total Possible Points		800

In Class Discussion and Participation: At the end of each class you will receive a list of questions designed to encourage you to read assignments and be more engaged in the material and class. You must be prepared to answer these questions at the beginning of the next class if called on. I will randomly call on students to answer these questions. You are allowed 1 pass on answering the question or answering incorrectly during the semester. *After that, each time you fail to answer these questions correctly or pass to someone else it will cost you 0.5% off of your final grade.*

Quizzes and Assignments: During the course there will be a total of 10 short-assignments and reading quizzes. These represent 25% of the total points in the course. The nature of short assignments will vary but may consist of brief essays, quantitative activities, group discussions, class participation, or other forms of evaluative exercises designed to stimulate learning and comprehension of course material. These may be conducted in or out of class depending on the assignment. Quizzes will be unannounced and may be given at the beginning or end of class. Some of these will be open notes, while others may not. It therefore pays to read the material and pay attention and participate in class.

- ***Short Assignments/ News Reviews:*** Newspapers are a rich source of biodiversity and conservation biology news. Over the course of the semester I may ask you to submit at least 1 news review. News reviews allow you to *briefly* (no more than 2 pages double-spaced) relate how the article relates to some aspect of biodiversity conservation. *This is not a summary* - I can read the article myself to see what it is about (you will attach it to your evaluation). Don't ignore the business section or even the comics for some of the best material. You will not be graded on the quality of the article you select, but how well you relate it to this class.

Grammar, sentence structure, and clarity count on these assignments, as in all writing assignments. We will discuss in class a few of the issues you uncover. Keep in mind that not all articles will be equally rich with relevant information, but it is up to you to draw the link between the article and the subject matter of this course. You will have opportunity to edit your work for the possibility of a higher grade. Each revised news review must be accompanied by the previous week's original review (with my comments) and its revision (this is how writing skills are improved).

- Other assignments will primarily be investigatory where you will have to explore current scientific literature or otherwise to answer questions individually or as small teams.

Exams: Exams will consist of questions of various formats; multiple choice, short answer, and essay are typical. The final exam is comprehensive in that it will include questions about material covered during the final quarter of the course, *plus* important facts, concepts and ideas from the entire portion of the course. Missed exams cannot be made up without a valid excuse (see attendance).

Sustainable Living Plan: This assignment is designed to make you think, consider, and plan major life choices and events within a resource consumption framework. It will hopefully be enlightening, perhaps sobering, and certainly challenging. More details will be provided in a future handout.

Letters of Recommendation: Natural resource management and conservation professionals are, compared to other professions, a relatively small and closely connected collective. Agencies, NGOs, academicians, consulting agencies, etc. are always searching for high quality candidates for entry-level positions into the workplace or for graduate studies. Choice positions and projects are highly competitive. I'm always pleased and willing to write letters of recommendation for those who excel in any of my courses.

Course Schedule FOR 315

Date	Course Topic(s)	Reading/Written Assignments
14-Jan	Course Overview; Human-Nature Relations: A Historical Tour	
19-Jan	What is Conservation Biology? Why care? Conservation Values and Ethics	Groom Chpts. 1 and 4
21-Jan	Case studies in Extinction: What killed the Pleistocene megabeasts and other events?	Groom Chpt 2; Leopold 1-163 (Parts 1-2 A Sand County Almanac)
26-Jan	Biodiversity: Patterns and Processes	Groom Chpt 2; Leopold 1-163 (Parts 1-2 A Sand County Almanac)
28-Jan	Threats to Biodiversity: Extinction End Game	Groom Chpt 3; Leopold 1-163 (Parts 1-2 A Sand County Almanac)
2-Feb	Habitat Loss and Degradation	Groom Chpt 6
4-Feb	Habitat Fragmentation	Groom Chpt 7
9-Feb	EXAM 1	
11-Feb	Overexploitation	Groom Chpt 8
16-Feb	Species Invasions	Groom Chpt 9
18-Feb	Species Invasions/Climate Change	Groom Chpt 9 and 10
23-Feb	Climate Change	Groom Chpt 10
25-Feb	Conservation Genetics	Groom Chpt 11
2-Mar	Conservation Genetics	
4-Mar	Ecological Economics	Groom Chpt 5
9-Mar	Ecological Economics	Groom Chpt 5
11-Mar	EXAM 2	
Mar 15-19	SPRING BREAK	Leopold 1-163 (Parts 1-2 A Sand County Almanac)
23-Mar	Species and Landscape Approaches to Conservation	Groom Chpt 12
25-Mar	Species and Landscape Approaches to Conservation	Groom Chpt 12
30-Mar	Ecosystem Approaches to Conservation	Groom Chpt 13
1-Apr	Ecosystem Approaches to Conservation	Groom Chpt 13
6-Apr	Protected Areas Management	Groom Chpt 14
8-Apr	Protected Areas Management	Groom Chpt 14
13-Apr	Restoration Ecology	Groom Chpt 15
15-Apr	Restoration Ecology	Groom Chpt 15
20-Apr	EXAM 3	
22-Apr	Sustainable Living	Speaker Likely/Handout Likely
27-Apr	Sustainable Development	Groom Chpt 16
29-Apr	Conservation Science and Policy	Groom Chpt 17-18, Leopold 165-226 (Part 3 The Upshot) Sustainable Living Assign. Due
6-May	FINAL EXAM (8:00 AM)	