

Fayetteville State University
College of Arts and Sciences
Department of Natural Sciences
BIOL 430-02 (Special Problems): Conservation Biology
BIOL 630-01 (Topics): Conservation Biology
Fall 2011

I. Locator Information

Instructor: Dr. Faren R. Wolter

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Office Location: Lyons Science 217

Office Phone: 910.672.2512

Office hours: M/F	8:00am – 8:50am
T/R	11:00 am – 12:30 pm 4:00 pm – 5:00 pm
W	8:00am – 8:50am 2:00 pm – 4:00 pm

Course # and Name: BIOL 430-02 (Special Problems): Conservation Biology
BIOL 630-01 (Topics): Conservation Biology

Day and Time: T/R 5:00 – 6:50pm (LSA 127)

Semester Credit Hours: 3

FSU Policy on Electronic Mail: Fayetteville State University provides to each student, free of charge, an electronic mail account that is easily accessible via the Internet. The university has established email as the primary mode of communicating with enrolled students about impending deadlines, upcoming events, and other information important to student progression at the university. Students are responsible for reading their email on a regular basis to remain aware of important information disseminated by the university. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail.

Students making inquiries via email to FSU faculty and staff about academic records, grades, bills, financial aid, and other matters of a confidential nature are required to use their FSU email account. Rules and regulations governing the use of FSU email may be found at:

<http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf>

II. Course Description: This is an interdisciplinary, upper level undergraduate and graduate student course that will examine the science of conservation biology in the context of environmental policy, socioeconomic demands, and environmental ethics. Using domestic and international conservation research and case studies, students will make connections between society and the natural world, relating human impacts on plants and wildlife to the goals of the practicing conservation biologist. Topics will include U.S. environmental history and law, the role of science in making environmental policy, environmental justice/environmental ethics, ecological economics, population and community biology, sustainable wildlife and forestry management, landscape ecology and conservation, and the applications of geographical information systems (GIS) in conservation biology. **Pre-requisite:** None; however, BIOL 350 Ecology and Evolution and/or BIOL 650 Communities and Ecosystems and/or other similar ecology/environmental science preparatory course work is *strongly* encouraged. **NOTE:** BIOL 430/630: Conservation Biology (Fall 2011) is a co-listed course in which undergrad and graduate students will be in the same class; however, course grading and expectations will vary for the two cohorts.

III. Disabled Student Services: In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ACA) of 1990, if you have a disability or think you have a disability to please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910-672-1203.

IV. Textbook: *Principles of Conservation Biology*, Third Edition (2006), Martha J. Groom, Gary K. Meffe, and C. Ronald Carroll. Sinauer Associates, ISBN: 978-0-87893-518-5 <http://www.sinauer.com/groom/>

No lab manual; however, handouts, announcements and other course information related to the course will be posted on the course Blackboard website and may be accessed at:<http://blackboard.uncfsu.edu> .

V. Student Learning Outcomes:

DEPTH AND APPLICATION OF KNOWLEDGE

1. Understand and discuss the principles of wildlife and conservation biology and how they are used to manage wildlife and solve environmental problems.
2. Understand and discuss a variety of laws and regulations that influence how natural resources are used and protected, both globally and in the United States.
3. Understand and discuss the impacts of land use and environmental management decisions on ecosystems and society.

QUANTITATIVE COMPETENCE

1. Understand essential mathematical (e.g., geometry, algebra, calculus) and statistical approaches used to analyze wildlife and conservation biology data.
2. Accurately comprehend and draw appropriate inferences from numeric data, statistical analysis, and predictive models used in published scientific literature.

METHODS OF INQUIRY

1. Identify and critique the basic assumptions underlying a model or hypothesis used in wildlife and conservation biology.
2. Describe appropriate sampling techniques to draw inferences about the dynamics of plant and animal populations and communities.
3. Recognize and discuss the limitations of methods used in wildlife and conservation biology.

PROBLEM-SOLVING

1. Identify and discuss problems in wildlife and conservation biology, evaluate problem-solving strategies, and develop science-based solutions.
2. Understand and discuss the need to integrate relevant social sciences (e.g., environmental planning, policy, law, and natural resources economics) in environmental problem-solving.

INFORMATION MANAGEMENT

1. Locate, compile, and organize information from both print and electronic media relevant to wildlife and conservation biology issues.

2. Evaluate and critique the quality information obtained from both print and electronic media for a given topic in the field of wildlife and conservation biology.

MULTIDISCIPLINARY PERSPECTIVE

1. Understand and discuss the perspectives of resource economists, policy makers, wildlife biologists, conservation biologists, nongovernment organizations, environmental consultants, environmental lawyers, municipal officials, and private citizens on specific problems in wildlife and conservation biology.

ETHICAL PRINCIPLES

1. Distinguish ethical from unethical behavior in wildlife and conservation biology research and practice.
2. Understand and discuss the ecological and societal value of biodiversity, sustainability, and environmental stewardship.
3. Articulate your "environmental ethic" (orally and in writing) and why you came to adopt it.
4. Be conversant in the ethical standards in your chosen scientific field.

GLOBAL AWARENESS

1. Understand and discuss the manner in which Earth systems have been modified by human activities.
2. Understand and discuss how human culture has been affected by the natural environmental processes.
3. Recognize and respect cultural differences regarding natural resource use and management.

VI. Course Requirements and Evaluation Criteria:

FSU Policy on Disruptive Behavior in the Classroom (Optional)

The *Code of the University of North Carolina* (of which FSU is a constituent institution) and the *FSU Code of Student Conduct* affirm that all students have the right to receive instruction without interference from other students who disrupt classes.

FSU Core Curriculum Learning Outcome under Ethics and Civic Engagement (6.03): All students will “prepare themselves for responsible citizenship by fulfilling roles and responsibilities associated with membership in various organizations.” Each classroom is a mini-community. Students learn and demonstrate responsible citizenship by abiding by the rules of classroom behavior and respecting the rights all members of the class.

The FSU Policy on Disruptive Behavior (see FSU website for complete policy) identifies the following behaviors as disruptive:

1. Failure to respect the rights of other students to express their viewpoints by behaviors such as repeatedly interrupting others while they speak, using profanity and/or disrespectful names or labels for others, ridiculing others for their viewpoints, and other similar behaviors;
2. Excessive talking to other students while the faculty member or other students are presenting information or expressing their viewpoints.
3. Use of cell phones and other electronic devices
4. Overt inattentiveness (sleeping, reading newspapers)
5. Eating in class (except as permitted by the faculty member)
6. Threats or statements that jeopardize the safety of the student and others
7. Failure to follow reasonable requests of faculty members
8. Entering class late or leaving class early on regular basis
9. Others as specified by the instructor.

The instructor may take the following actions in response to disruptive behavior. Students should recognize that refusing to comply with reasonable requests from the faculty member is another incidence of disruptive behavior.

1. Direct student to cease disruptive behavior.
2. Direct student to change seating locations.
3. Require student to have individual conference with faculty member. At his meeting the faculty member will explain the consequences of continued disruptive behavior.
4. Dismiss class for the remainder of the period. (Must be reported to department chair.)
5. Lower the student’s final exam by a maximum of one-letter grade.
6. File a complaint with the Dean of Students for more severe disciplinary action.

Students who believe the faculty member has unfairly applied the policy to them may make an appeal with the faculty member’s department chair.

Student Behavior Expectations: I will respect all students and will make every effort to maintain a classroom climate that promotes learning for all students. Students must accept their responsibility for maintaining a positive classroom environment through abiding by the following:

1. Students are expected to arrive to class on time, remain in class until dismissed by the instructor, and refrain from preparing to leave class until it is dismissed.
2. Student/teacher relationships, as well as relationships among peers, must be respectful. Please respect the thoughts, opinions, and questions presented by their classmates.
3. Students are not permitted to use (texting, checking messages, surfing the web, etc.) any electronic communication device while in the classroom, lab, or field – this includes pagers, cell phones, iPods, iPhones, PDA's, etc. Using a laptop computer or iPad for taking notes is permitted; however, accessing websites not relevant to class is NOT permitted. Abuse of this privilege may result in privilege loss.
4. If a student is seen using or “checking” any electronic device during any graded assignment they will receive a zero. Use your watch for telling time or ask the instructor for the time.

Consequences for Failing to Meet Behavioral Expectations: If consequences are not already stated above, then the first time a student violates one of these rules the instructor will warn him or her privately, either after class or before the next class. (Faculty members reserve the right to warn students publicly if needed.) The second time a student violates the guidelines the instructor may deduct as many as ten points from the student's next exam grade. If a student violates the guidelines three times, the instructor will report the student to the Dean of Students for disciplinary action according to the FSU Code of Student Conduct.

Attendance: As stated in the university policy guidelines, students are expected to attend all classes regularly and therefore I do not give extra credit for attendance. Also, note that lab/field assignments are not able to be made up when missed so please make every effort not to miss scheduled lab assignments/field trips. Announcements are made at the beginning of class, so promptness is important.

Grading Scale:

- A = 90 - 100%
- B = 80 - 89%
- C = 70 - 79%
- D = 60 – 69%
- F = 59% and below

Grading and Value of Each Assignment: Course grades consist of six exams (60%), Essay/Case Study Assignments & Discussions (30%), and engaged participation (10%).

Exams 1 - 6: 10% each Essay/Case Study Assignments & Discussions (6): 30% Participation: 10%

Please note: If these evaluation criteria must be revised because of unforeseen circumstances, the instructor will announce it in class and post a written amendment to the syllabus on Blackboard.

Policy on Missed or Late Exams and Assignments: You are expected to complete all work and on time! If you are not able to turn in your assignments during a particular week (i.e. unexcused absence, work or family commitment, work schedule conflict, etc.), then they must be turned in prior to the due date and not afterward.

Due to the condensed time schedule of Intersession courses, documentation for the absence must be given to me within 24 hours of the missed day before I will agree to accept any make-up work. Therefore, do not ask to make up an assignment days after missing a class if the documentation was not given to me within the specified amount of time.

I do not accept late work and nor will I allow a student to make up a missed exam without a documented excuse.

Examples of reasonable and/or documented excuses:

- (1) unexpected illnesses (this does not include previously scheduled appointments!) accompanied by a medical note (must contain the doctor's name, day/time of your appointment, and their office number).
- (2) death/serious illness of an immediate family member (parent, spouse, sibling or child).
- (3) an FSU sponsored event (documentation must include faculty/coach's name and contact number).

I do not curve grades on missed or late work OR allow for extra credit assignments to make up for missed or late work; so please do not ask.

Academic Dishonesty and Plagiarism: Students are expected to be familiar with FSU's policy on academic dishonesty. Cheating includes, but is not necessarily limited to, copying answers to questions from someone else, copying answers to questions from written or electronic sources brought to an exam, and changing answers after the work is submitted and claiming those answers to be the original answers. Any student caught cheating on an exam will receive a score of zero for that exam with no opportunity to re-take the exam.

Any assignment that contains plagiarized work (any thought, statement, concept, idea, wording, data used, etc. that is not entirely your own and the author is not credited) will be given a grade of zero.

All information (work, data, theories, conclusions, etc.) that is not your own original work **must be cited properly** (APA format). Not doing so is an act of plagiarism, even if unintentional, so double-check your work! If a student believes that they did not plagiarize someone else's work, then they may make an appeal but it is their responsibility to prove that the submitted assignment is entirely their own work. Furthermore, any student that allows his/her work to be plagiarized or similarly copied by another student will also receive a grade of zero for the assignment. There will be no opportunity to make-up a grade of zero resulting from plagiarism and/or academic dishonesty.

VII. Academic Support Resources: Use of SI, Smarthinking, Criterion, University College Learning Center.

VIII. Lecture Outline, Readings, and Assignments (subject to change!)

Part 1: Conceptual Foundations for Conservation Biology

CH 1: What is Conservation Biology?

CH 2: Global Biodiversity: Patterns and Processes (info covered in BIOL 350 and BIOL 650)

CH 3: Threats to Biodiversity

CH 4: Conservation Values and Ethics

CH 5: Ecological Economics and Nature Conservation

Part 2: Focus on Primary Threats to Biodiversity

CH 6: Habitat Degradation and Loss

CH 7: Habitat Fragmentation

CH 8: Overexploitation

CH 9: Species Invasions

CH 10: Biological Impacts of Climate Change

Part 3: Approaches to Solving Conservation Problems

CH 12: Species and Landscape Approaches to Conservation

CH 13: Ecosystem Approaches to Conservation

CH 17: The Integration of Conservation Science and Policy: The Pursuit of Knowledge Meets the Use of Knowledge

CH 18: Meeting Conservation Challenges in the 21st Century

Week	Date	Topics	Readings and Assignments
1	Aug 18 (R)	Introduction and course syllabus CH 1: What is Conservation Biology?	Syllabus (posted on Blackboard) Chapter 1
1	Aug 23 (T)	CH 1: What is Conservation Biology? CH 2: Global Biodiversity: Patterns and Processes (info covered in BIOL 350 and BIOL 650) CH 3: Threats to Biodiversity	Chapter 1 "Thinking Like a Mountain" (Aldo Leopold) Chapter 3
2	Aug 25 (R)	CH 3: Threats to Biodiversity	Chapter 3
2	Aug 30 (T)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
3	Sept 1 (R)	Test 1 (CH 1 – 3)	
3	Sept 6 (T)	CH 4: Conservation values and Ethics	Chapter 4
4	Sept 8 (R)	CH 4: Conservation values and Ethics CH 5: Ecological Economics and Nature Conservation	Chapter 4 Chapter 5
4	Sept 13 (T)	CH 5: Ecological Economics and Nature Conservation	Chapter 5
5	Sept 15 (R)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
5	Sept 20 (T)	Test 2 (CH 4 & 5)	
6	Sept 22 (R)	CH 6: Habitat Degradation & Loss	Chapter 6
6	Sept 27 (T)	CH 6: Habitat Degradation & Loss CH 7: Habitat Fragmentation	Chapter 6 Chapter 7

7	Sept 29 (R)	CH 7: Habitat Fragmentation	Chapter 7
7	Oct 4 (T)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
8	Oct 6 (R)	Test 3 (CH 6 & 7)	
8	Oct 11 (T)	CH 8: Overexploitation CH 9: Species Invasions	Chapter 8 Chapter 9
	Oct 13 - 18	NO CLASS – FALL BREAK	
9	Oct 20 (R)	CH 10: Biological Impacts of Climate Change	Chapter 10
9	Oct 25 (T)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
10	Oct 27 (R)	Test 4 (CH 8 – 10)	
10	Nov 1 (T)	CH 12: Species and Landscape Approaches to Conservation	Chapter 12
11	Nov 3 (R)	CH 13: Ecosystem Approaches to Conservation: Responses to a Complex World	Chapter 13
11	Nov 8 (T)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
12	Nov 10 (R)	Test 5 (CH 12 & 13)	
12	Nov 15 (T)	NO CLASS – AT CONFERENCE	
13	Nov 17 (R)	NO CLASS – AT CONFERENCE	
13	Nov 22 (T)	CH 17: Ecosystem Approaches to Conservation: Responses to a Complex World	Chapter 17
14	Nov 24 - 25 (R)	NO CLASS - Thanksgiving	
14	Nov 29 (T)	CH 18: Meeting Conservation Challenges in the 21 st Century	Chapter 18
15	Dec 1 (R)	Review/finish lectures Essay & Case Study Discussions	Essay & Case Study Assignment due
	Dec 3 - 9	FINAL EXAM WEEK	

Essay/Case Study Assignments & Discussions

Week	Date	Assigned Essays and Case Studies
2	Aug 30 (T)	“Hierarchical Indicators for Monitoring Changes in Biodiversity” (Essay 2.1); “Cascade effects resulting from Loss of Critical Species of taxon, or from species introductions” (Box 3.1); “Hope for a Hotspot” (Case Study 3.2)
5	Sept 15 (R)	“Cypress Forest Conservation on Taiwan: A Question of Value” (Case Study 4.1); “Valuation of Ecological Systems” (Essay 5.2); “A Non-Economic View of the Value of Biodiversity” (Essay 5.3)
7	Oct 4 (T)	“Endocrine disrupting Contaminants, Conservation, and the Future” (Essay 6.3); “Habitat Shredding” (Essay 7.1); “Species Vulnerable to Fragmentation” (Box 7.2)
9	Oct 25 (T)	“Overexploitation of Highly Vulnerable Species: Rational Management and Restoration of Sharks” (Case Study 8.1); “Biological Control as a Conservation Tool” (Case Study 9.4); “Adapting Coastal Lowlands to Rising Seas” (Case Study 10.3)

11	Nov 8 (T)	“Ecologically Functional Populations” (Essay 12.3); “Landscape Conservation in the Greater Madidi Landscape, Bolivia” (Case Study 12.2); “Using Fire as a Natural Process in Ecosystem Management” (Box 13.1); “Large-Scale Ecosystem Management” (Case Study 13.3)
15	Dec 1 (R)	“Collaborating for Conservation” (Essay 17.2); “Elephant Conservation in Sri Lanka” (Case Study 17.2); “Management of Spotted Owls” (Case Study 17.3); “Conservation Biology in the 21 st Century” (Essay 18.1)

IX. Teaching Strategies: The principal teaching strategies will consist of PowerPoint lectures, creative exercises for peer to peer learning groups, posing questions for stimulating class discussion, and viewing professionally produced DVD’s. Emphasis will be placed on student understanding of basic concepts and principles of ecology, particularly the interrelation of science, economics, public policy, and society as they relate to natural resources stewardship in the 21st Century.

WRITTEN ASSIGNMENTS (Writing-across-the-curriculum)

In order to emphasize the importance of writing in the learning process this course will require the student to do a certain amount of written work in the form of papers and/or lab reports. You will receive more information concerning this aspect of the course from your instructor as the course progresses.

X. REFERENCES

All general biology students are encouraged to use the library and to do supplemental reading in the biological sciences. The following science periodicals provide a source of current information in a format appropriate for both the major and non-major biology student.

1. Discover
2. Conservation Biology
3. The Journal of Wildlife Management
4. Science
5. Science News
6. Nature
7. Natural History
8. Society & Natural Resources