Syllabus
CONSERVATION ECOLOGY

NR 5724 – CRN 96218 - 3 Credits
Fall 2009
Virginia Polytechnic Institute and State University - College of Natural Resources
National Capital Region

INSTRUCTOR:

Alan D. Thornhill, Ph.D.,
Society for Conservation Biology
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CLASS LOCATION:

Virginia Tech, Northern Virginia Center, 7054 Haycock Rd, Falls Church, Room TBD

MEETING TIME:

Wednesdays, 7:00 – 10:00 PM

OFFICE HOURS:

By appointment.

COURSE DESCRIPTION:

Human activities are having a cumulative effect on the natural systems upon which life depends. Future land management impacts will likely entail unprecedented change in environmental conditions. More integration of the traditional natural resources fields will be required to develop innovative approaches to sustain resource development. Conservation Ecology provides insights to the many benefits and services that nature offers and explores strategies for management options to sustain ecological integrity and the production of goods and services. It is an emerging interdisciplinary approach to harmonizing the interactions between people and nature at ecosystem scales. The course is designed to explore the knowledge, theories, and research related to the total environment in which we practice conservation. Emphasis will be on the synthesis and integration of knowledge, skills and abilities that are needed as conservation issues become more complex. A problem-based learning format will require students to actively participate in their own learning by researching and analyzing real-life problems to arrive at "best" solutions. The instructor serves as a cognitive coach by modeling inquiry strategies and guiding students in exploring relevant contact.

GOAL AND EDUCATIONAL OBJECTIVES:

Goal: To provide students with a foundation for future learning that will able them to integrate knowledge of the natural resource disciplines and generate innovative approaches that enhances environmental conditions and sustains ecosystem services for future generations.

Course Objectives: Upon completion of the course, students will be able to:

- Develop a framework for critical thinking about renewable natural resource problems and issues that relates to its application in practical management issues.
- Incorporate current scientific knowledge and technologies into holistic analysis that affect conservation issues.

- ❖ Identify potential for conflict among simultaneous management objectives.
- ❖ Outline a framework for integrating habitat-based population viability objectives into resource analysis that joins the concepts used by community ecologists and population biologists.
- ❖ Develop an awareness of landscape ecology and its application to natural resource management issues.
- ❖ Recognize and appreciate the roles and relationships of economic and social sciences in the conservation of renewable natural resources.
- ❖ Estimate how changing environmental conditions may impact biodiversity at the genetic, species and ecosystem levels.
- ❖ Identify factors and processes that threaten biological integrity and estimate potential impacts.
- ❖ Apply the fundamentals of population dynamics in relation to population viability analysis.
- ❖ Explore interests in careers related to a holistic approach to natural resource management.

COURSE CALENDAR:

	Date	Tentative Topic	Reading Assignment
1	Aug 26	Conservation Biology	Chapter 1 + Blackboard readings
2	Sep 2	Biological Diversity	Chapter 2 + Blackboard readings
3	Sep 9	Biological Diversity continued + basics of ecology	Chapter 3 + Blackboard readings
4	Sep 16	Threats to Biological Diversity	Chapter 4 + Blackboard readings
5	Sep 23	Scope of Conservation Problem - **Paper topics due by email to AT**	Readings TBA
6	Sep 30	Ecological Economics (Trauger)	Chapter 5 + Blackboard readings
7	Oct 7	Ecological Integrity and Threats	Chapter 6 + Chapter 7
8	Oct 14	Green and Human infrastructure – **MT Exam due**	Blackboard readings
9	Oct 21	Human infrastructure planning – Joe Burns, guest lecture – **Paper drafts due**	
10	Oct 28	Political Dimensions (Trauger) – John Fitzgerald, guest lecture (tentative) **– Paper drafts returned**	Chapter 17 + Blackboard readings
11	Nov 4	Ecosystem Conservation and Systems Theory	Chapter 13 + Blackboard readings
12	Nov 11	Protected areas – **Final Papers due**	Chapter 14 + Blackboard readings
13	Nov 18	The Path Forward: New Minds – **Papers returned**	Blackboard readings
--	*Nov 25*	*No Class*	
14	Dec 2	Class Presentations and Course Evaluation	

COURSE REQUIREMENTS AND GRADING:

The course will be sequenced around issues and problems that will promote a critical inquiry into the knowledge, skills, and abilities relevant to key elements of Conservation Ecology. Each session will address a series of problems or issues that will be used to guide class discussion and promote critical inquiry. Problems will be assigned at least 1 week in advance along with reading assignments. The course will require extensive readings in texts and references along with Internet searches. Students are expected to have written notes and outlines to lead class discussions and support their analysis.

Class attendance, participation in class discussions, and final presentation will account for 20% of the final grade. Arrangements can be worked out for a limited number of absences due to conflicts in work or other schedules. Two or more short writing assignments will account for approximately 13% of the final grade. One written midterm exam will account for 33% of the grade (Due date: TBA). A comprehensive final paper, a critical analysis of a current problem or issue, will account for 33% of the final grade (Due date: TBA).

REQUIRED TEXT

M. J. Groom, G. K. Meffe, and C. R. Carroll. 2006. Principles of Conservation Biology. Third Edition. Sinauer Associates, Inc. 779 pp.

BLACKBOARD

Course announcements, information, assignments, and documents will be posted on Blackboard, accessible with your PID and Password at www.learn.vt.edu or the Virginia Tech Home Page.

GRADUATE HONOR CODE

The tenets of the Virginia Tech Graduate Honor Code will be strictly enforced in this course, and all assignments shall be shall subject to the stipulations of the Graduate Honor Code as outlined in the Graduate Catalog at http://www.ncr.vt.edu. For more information on the Graduate Honor Code, please refer to the GHS Constitution, located online at http://fbox.vt.edu/studentinfo/gradhonor/ Please contact the instructor immediately if you have questions.

SPECIAL ACCOMMODATIONS

If you need adaptations or accommodations because of a disability (learning disability, attention deficit disorder, psychological; physical, etc.), if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My office location and hours are shown above at the beginning of the syllabus.

COURSE EVALUATIONS

In the spirit of continuous improvement, the instructor seeks ways to improve this course and values your input. To that end, you will be asked to complete an informal evaluation mid-term and at the end of the semester as well as a formal evaluation on May 10. At any point during the course, your suggestions and comments are most welcome.

NOTE: The course syllabus is a work in progress. Changes and updates will be made to accommodate the needs and interests of the students. Modifications may also be made if natural resource communications issues surface during the semester that may provide a unique learning experience for students.

WEATHER LINE

For weather cancellations, please check www.ncr.vt.edu and the Weather Alert Line 703-538-8325.

INTERNET SITES

Society for Conservation Biology	http://conbio.org
Ecological Society of America	http://esa.org
The Wildlife Society	http://www.wildlife.org/
American Fisheries Society	http://www.fisheries.org/
Society of American Foresters	http://www.safnet.org/
Journal of Conservation Ecology	http://www.consecol.org/Journal/
National Council for Science and The Environment	http://www.cnie.org/
Federal Resources for Educational Excellence	http://ed.gov/free/
National Biological Information Infrastructure	http://www.nbii.gov/