Biology 374 "Conservation Biology"

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Office hours: Mondays 10:45-11:45 and by appointment

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Website: All course documents will be posted on the Blackboard Course Website.

Course Description: Conservation Biology is a multidisciplinary, applied science devoted to preserving the remaining biological diversity of our planet. We will study the foundational concepts and principles of conservation biology and use case studies and examples to illustrate these principles in practice. We will examine the causes and consequences of diversity losses; the genetic and evolutionary consequences of small populations; population viability modeling and other tools; and approaches to conserving diversity including reserve design, corridors, captive breeding species reintroductions and conservation laws. The prerequisite for this course is either Bi213 or Bi253.

Course Objectives
• Learn the fundamental principles and concepts of conservation biology.
• Apply these principles to conservation strategies for species and ecosystem management
• Increase scientific literacy and communication skills.
• Independently and collaboratively research, explore, and evaluate conservation issues and actions.
• Think about how conservation biology relates to our own lives.
• Gain an appreciation for the diversity of the natural world!

Readings, mostly journal articles from the scientific literature, are required reading for this course. I will try to make most of these readings available on Blackboard. In some cases, the reference will be provided for you to obtain the articles on-line through the U of O library. The readings will be announced in class and on Blackboard. We will be actively engaged in discussing the readings during class so please read them before the due date.


Course Format

Lectures. 12:00-1:20 Monday, Wednesday, 128 CHI

You will be responsible for all material presented in lecture. The course schedule is tentative and subject to change; adjustments will be announced in class. Lectures will be a mix of lecture and discussion. Discussions will include questions on any assigned readings, so I have a strong expectation that you will have read the material before coming to class and arrive ready to participate. There are group and writing activities that occur during lecture. It is our expectation
that you participate in these activities. Your active involvement promotes understanding of the material and preparation for exam questions.

Lecture outlines containing the text of the PowerPoint slides are available on Blackboard. Please keep in mind that these are merely outlines for your convenience in taking and organizing notes. They are not meant to serve as a complete set of lecture notes when studying for the exams.

I appreciate feedback on the lectures. Questions are welcome and encouraged during and after lecture, during office hours, and via e-mail.

Discussion Sections Tuesdays, 112 HUE
Participation in discussion sections is a required part of this class and will count toward your final grade. Occasionally there will be short assignments associated with discussion section activities. These will be announced in class and on Blackboard. Sections will provide an opportunity to question and discuss some of the topics presented in the readings and lecture. Some weeks will be used to discuss readings from the primary literature or engage in hands-on group activities. Project presentations will occur in section.

Grading Evaluation:

20% Midterm Exam
25% Final Exam

15% Poster
20% Term paper

9% Discussion Section Participation
6% Three HW assignments
5% Lecture Participation: short comments after class activities or discussion of readings

Total = 100%

Exams: The midterm (week 6) is worth 20% of the total class grade and the final exam is worth 25%. Exams will include material from the lectures, readings, in-class activities, discussion sections and the film clips shown in class.

Exams will be mixed format (short answer, multiple choice, short essay). Details will be announced in class.

Make-up Exam Policy: There will be NO make up exams except in the case of a documented severe medical condition or other extreme documentable emergency. It is your responsibility to contact the instructor as soon as possible. There will be no early final exams.

Poster Project
You will work in groups of three to create a poster focused on a species listed on the IUCN Red List. We will use class time for a poster session where your posters will be evaluated to determine how well you have described the work done on your species and convinced the audience of the conservation needs of your focal species. You will be expected to answer questions about your own poster and to be an inquisitive audience toward other poster groups. Your group will be randomly assigned to one of the in-class poster sessions. Week 2 of discussion will be used to introduce the poster project. During this time you will receive more information about what your poster must include and how it will be evaluated.

Term Project
Each of you will research a topic in conservation biology that results in an individually written seven page term paper. More details will be provided in class and on Blackboard about the paper requirements.
Discussion Activities
Your score for each week will be determined by attendance, participation and completion of any assigned exercises. There are a total of nine sections this term.

 Homework assignments will be due in discussion section. One of these assignments will ask you to share a report on conservation in the news so keep your eyes open for interesting articles. The other two will be discussed in class.

 Lecture Participation: We will collect short comments after class activities or reading reflections six times during the term and five of these will count toward your final grade. You can miss one without penalty. Make-ups will not be administered.

 Professional conduct
 Plagiarism will not be tolerated. You are expected to do your own work on assignments, projects, and exams. When writing up your assignments and papers, you are expected to paraphrase (use your own words). When writing up your project papers and posters/presentations, give credit to the sources of your information. You are encouraged to discuss ideas with each other and to study together, but don’t copy someone else’s work, or allow them to copy yours. Academic dishonesty is a serious offense. Please refer to the University of Oregon Student Conduct Code by which all students are expected to abide.

 Classroom Etiquette:
 1. Please arrive on time.
 2. Please don't leave early. This is very disruptive to everyone. In turn, I will not lecture beyond 1:20. If you have an unusual circumstance and must leave early, then please sit near the exit so you can leave unobtrusively.
 3. Please refrain from engaging in activities that could be distracting to your fellow students.
   • We ask that you not converse with your neighbors when someone else is talking (instructor or classmate) as this interferes with the ability of other students to learn.
   • Please turn your cell phones off during lecture.
   • Please use computers during lecture only to take notes. Other laptop activities have been reported to be distracting to your fellow students.
   • Please do not pack up your things early as this makes it difficult for students around you to hear the end of the lecture.

 If you are having a problem that interferes with your ability to do the work in this class, please tell us about it as soon as you can. We may be able to refer you to someone for help or to make special arrangements if the need is real and if you have done your best to deal with the situation in a timely manner.

 The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in barriers to your participation. You may also wish to contact Disability Services in 164 Oregon Hall at 346-1155 or disabsrv@uoregon.edu

 The following tentative schedule is a work in progress and is subject to change. Changes will be announced in class and on Blackboard. Additional readings may be assigned and will be available on Blackboard.

 Most of the following topics are covered in the Primack textbook. Please ask if you need assistance locating readings.
<table>
<thead>
<tr>
<th>Wk</th>
<th>LECTURE TOPICS and Readings</th>
<th>Discussion Sections</th>
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| 1  | PART I: Identifying the Problems  
1/9 L: Introduction to Conservation Biology  
1/11 L: Biodiversity, Species concepts  
**Reading:** What is Conservation Biology? Soule | 1/10 Sections do not meet.  
Read the syllabus! |
| 2  | 1/16 MLK Day. No class.  
1/18 L: Conservation values, extinction  
**Reading:** What to let go? Marris | 1/17 Discussion intro.  
Project description  
**Activity:** Measuring biodiversity |
| 3  | 1/23 Threats to biodiversity I: habitat loss & fragmentation  
**Reading:** Ecosystem Decay of Amazonian Forest Fragments. Laurance et al.  
1/25 L: Threats to biodiversity II: overexploitation  
**Reading:** Human-induced evolution caused by unnatural selection. Allendorf and Hard. | 1/24 Measuring biodiversity activity continued  
**Activity:** fragmentation |
| 4  | 1/30 L: Threats III: Invasives and climate change  
**Reading:** flycatchers and phenological shifts  
2/1 L: Conservation genetics and the problems with small populations  
**Reading:** Inbreeding and outbreeding depression | 1/31 Poster presentations. |
| 5  | PART II: Conserving Species  
2/6 L: Populations, Stochasity, MVPs  
**Reading:** TBA  
2/8 PVA, Establishment Programs  
**Reading:** Fallow Deer | 2/7 Poster presentations |
| 6  | 2/13 Midterm EXAM | 2/14 HW 1 Due:  
Conservation in the News Assignment |
|     | 2/15 L: Conservation Behavior  
**Reading:** Iberian Lynx | 2/21 Peer review Term paper |
| 7  | 2/20 L: ESA and other laws protecting species  
**Reading:** Umbrella Species  
PART III: Conserving Ecosystems  
2/22 L: Protected Areas, Reserve planning, Corridors  
**Readings:** Myers et al. Hotspots  
Kareiva and Marvier. Coldspots | 2/28. Term paper DUE  
Protection activity: Which Species? |
| 8  | 2/27 L: Guest Lecture: TBA  
**Reading.** GAP analysis. Rodrigues | 3/6 HW2 Due  
Case Study analysis |
| 9  | 3/5 L: Guest Lecture: TBA  
3/7 L: Restoration and trophic cascades  
**Reading:** Ripple and Beschta  Restoring Yellowstone's aspen with wolves | 3/13 HW3 Due: Letter to Legislator Assignment |
| 10 | 3/12 Urban Conservation  
**Reading:** TBA  
3/14 L: Conclusions  
**Reading:** Impact of conservation | **FINAL EXAM**  
**Monday, March 19, 10:15** |