Biology 374 "Conservation Biology"

Instructor: Dr. Debbie Schlenoff
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Office hours: Wednesdays 2:30-3:30 and by appointment

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Office Hours: Tuesdays 1-2pm in Onyx 360

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

Course Description: Conservation Biology is a multidisciplinary science devoted to preserving the remaining **biological diversity** of our planet. It aims to document the effects of human activity on biological populations and ecological systems and suggest means to minimize the impact of human disturbance so that these systems continue to function naturally. Fields such as political science, sociology, economics, and ethics are important components of conservation biology, and we may touch on these topics, but emphasis will be placed on the scientific approaches to conservation issues. Preserving the Earth's remaining biodiversity requires understanding the phenomena responsible for the maintenance, loss and restoration of biodiversity. To achieve this, we will primarily draw on the principles, concepts and case studies from the fields of ecology, evolutionary biology, and genetics. Some of the course may deal with material that is more applied than in your other biology courses. The prerequisite for this course is either Bi213 or Bi253.

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.

Optional Recommended Text: Primack, Richard B., Essentials of Conservation Biology, 5th edition, Sinauer. ISBN 978-0-87893-640-3. The text is on reserve at the science library.

Course Format

Lectures Monday, Wednesday. 12:00-1:20, 208 Deady

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 may 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. Occasionally, 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 Huestis
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 many of the topics presented in the readings and lecture. Some weeks will be used to discuss readings from the primary literature or engage in group activities; other weeks will be used to prepare your poster or work on student group presentations.

Grading Evaluation:

100 Exam 1
100 Exam 2

70 Poster
100 Term paper
50 Presentation

60 Discussion Section Participation and assignments
20 Lecture Participation: short comments after class activities or discussion of readings
Total = 500 points

Exams: There will be two exams worth 100 points each (20% of grade each). 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.

Poster Project (70 points)
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 (150 points)
Each of you will work on a term project related to conservation biology that results in an individually written paper (100 points) and a group (two students) oral report with PowerPoint presentation (50 points) given in discussion section during one of the last few weeks of the term. More details will be provided in class and on Blackboard about the paper and presentation requirements.

Discussion Activities (60 points)
Your score for each week will be determined by attendance, participation and completion of any assigned exercises. The breakdown is as follows: 5 points for participation each week (for a total of 45) + 5 points for conservation in the news assignment + 10 points for letter to editor or legislators assignment.

Lecture Participation (20 points): We will collect short comments after class activities or discussion of readings six times during the term and four of these will count toward your final grade (at five points each). You can miss two 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.

Most of these topics are covered in the Primack textbook. Please ask if you need assistance locating readings.

Wk	LECTURE TOPICS and Readings	Discussion Sections

1	**1/3 L:** Introduction to Conservation Biology **1/5 L:** Biodiversity, Species concepts **Reading: What is Conservation Biology? Soule**	**1/6** *Activity: Measuring Biodiversity*
2	**1/10 L:** Conservation values, extinction **Reading: What to let go? Marris** **1/12 L:** Threats to biodiversity I: habitat loss & fragmentation **Reading: Ecosystem Decay of Amazonian Forest Fragments. Laurance et al.**	**1/13** Poster project Introduction.
3	**1/17 No class** **1/19 L:** Threats to biodiversity II: overexploitation & species invasions **Reading: Human-induced evolution caused by unnatural selection. Allendorf and Hard.**	**1/20** Read & discuss: **Gulliver travels to the fragmented tropics. Stratford and Robinson.** *Activity: fragmentation*
4	**1/24 L:** Threats III: climate change ***Poster session*** **1/26 L:** Conservation genetics and the problems with small populations **Reading: The expansion of conservation genetics. DeSalle and Amato**	**1/27** Term project description. **Poster Presentations**
5	**1/31 L:** Conservation genetics **Reading: Sex allocation theory aids species conservation. Robertson et al.** **2/2 EXAM 1**	**2/3 Conservation in the News Assignment** *Activity: Selecting areas for protection*
6	**2/7 L:** Solving conservation problems I: species approaches **Reading: Impact on status of world's vertebrates** **2/9 L:** Solving conservation problems and Conservation Behavior **Reading: Myers et al. Hotspots**	**2/10** Read & discuss: **Global hotspots … Orme et al.** *Discuss Letter to Editor or Legislators Assignment*
7	**2/14 L:** Solving conservation problems: ecosystem approaches **Reading: Kareiva and Marvier. Coldspots** **2/16 L:** Guest Lecture (date subject to change)	**2/17** Term project presentation description. (Activity: Threat assessment)
8	**2/21 L:** Restoration **Reading: Restoring Yellowstone's aspen with wolves. Ripple and Beschta** **2/23 L:** Protected Areas **Reading: Size-dependent resistance of protected areas to land-use change. Maiorano et al.**	**2/24 TERM PAPER DUE.** **Presentations I**
9	**2/28 L:** Corridors **Reading: Minor and Lookingbill (connectivity analysis)** **3/2 L:**Urban Conservation **Reading: TBA**	**3/3 Presentations II**
10	**3/7 L:**Conclusions **Reading: TBA** **3/9 EXAM 2**	**3/10 Due: Letter to Ed. or Legislators Assignment**