Conservation Biology, Bios 594

Term: Spring 2016; Day and Time: Monday, 2-4pm; Credits: 2
Instructor: Dr. Som B. Ale, University of Illinois-Chicago, Biological Sciences
Office: SES 3358; Email: sale1@uic.edu; Phone: 312-996-4578
Office Hours: Open

Course Description: This course will explore the causes and consequences of species loss, ecological theories pertaining to conservation, and current conservation practices. One of the major obstacles in biodiversity conservation is the lack of communication between ecology restricted to academic institutions and management that needs information to advance conservation causes. As a consequence, critical scientific information which may be readily available in academia might not be easily accessible to managers and policy makers who are in charge of conservation and management of species. The course, which will culminate with students writing a management oriented paper for the threatened species of their choice, will emphasize on the application of ecological theories to help understand conservation.

Class Format: The course combines lectures, readings, in-class discussions, and presentations from the participants. Class material will be presented through a combination of lecture and discussion, homework, and writing assignments. There will be a lecture and paper reading every week. Students will prepare a page-long gist of the paper/s they have gone through that week.

Through published and gray papers, each student will identify the major conservation issues, challenges and opportunities associated with the preferred species, and opine conservation recommendations. The students are expected to prepare a succinct paper not exceeding 10 pages (12-font, double-space) that may be publishable in conservation oriented journals.

All required reading materials (published papers and book chapters) for the course will be provided.

Course Contents

Week 1, Jan 11:
Introduction to Conservation Biology

Papers for reading (will be provided in class)

Home-work 1: Choose your preferred species that must be a threatened species that you think may require conservation attention. Find your species from http://www.iucnredlist.org/.

Write on your interest on conservation biology vis-à-vis your target species. What’s your interest in conservation in general? Why did you choose this species? What may be the relevant threats to its continued survival? How should the conservation authorities react? Start mulling over how you acting as a conservation biologist may be able to contribute to its conservation and management.

NOTE: This writing should not exceed one page (12-font, double space). Include at least 3 references. For the reference-style, follow the journal Ecology and Society: http://www.ecologyandsociety.org/).

Week 2, Jan 18:
MLK (no class)
Week 3, Jan 25:
Population dynamics (exponential and logistic population growth)

Papers for reading

Homework 2: 1. Simple numerical problems on population dynamics. 2. What may be the intrinsic population growth rate, r, of your target species? You do not have to write about it for now, but note that you will have to tell us about it during the ppt presentation at the end of this course (see the grading section, below).

Week 4, Feb 1:
Predator and prey dynamics

Papers for reading

Week 5, Feb 8:
Maximum sustainable yield

Papers for readings

Class work: Be prepared to introduce your species to class

Week 6, Feb 15:
Island biogeography theory

Papers for reading

Class work: Be prepared to introduce your species to class

Week 7, Feb 22:
Metapopulation, corridor and other issues

Papers for reading

Week 8, Feb 29:
Issues of the declining population

Papers for reading

Homework 3: The rate of decline.

Week 9, Mar 7:
Ecology (theory) and Conservation (practice): Example from the Himalayas (large mammals) and Arctic (small mammals) ecosystems.

Papers for reading

Week 10, Mar 14:
On the observation of Red Listing species: A case study of the snow leopard.

Papers for reading
**Week 11, Mar 21:**
Spring break (NO CLASS)

**Week 12, March 28:**
Protected Areas and Integrated Approach to biodiversity conservation: A case study of Integrated Conservation and Development Project for developing countries.

Papers for reading

**Week 13, April 4:**
Student (20-min PPT) Presentation

**Week 14, April 11:**
Student (20-min PPT) Presentation

**Weeks 15/16, April 18 and 25:**
Paper write-up

**Grading:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Attendance and weekly Abstract¹</td>
<td>100</td>
</tr>
<tr>
<td>Homework²</td>
<td>50</td>
</tr>
<tr>
<td>PPT Presentation³</td>
<td>100</td>
</tr>
<tr>
<td>Evaluation by students⁴</td>
<td>50</td>
</tr>
<tr>
<td>Paper write-up⁵</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>500</td>
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</tbody>
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> 450 = A; 400-449 = B; 350-300 = C

**Note:**

¹ Students would turn in an abstract (half-a-page, single space, 12 font) on the papers distributed the previous week (10 points per week). This one pager must include a paragraph that relate the papers’ findings vis-à-vis your target species.

² Homework (spread across the course)

³ Students and instructor would collectively evaluate PPT presentation (students 50 and instructor 50).

⁴ A student will be assigned for a note-taking task for each presentation. S/he will note-down questions and answers during the presentation. S/he will receive 50 points for doing this and turning in a page of report that evaluate the relevance of students’ questions and answers.

⁵ Students will turn in the final report on the species.

³,⁴,⁵ The grading/evaluation rubric will be posted on blackboard.