

## Advanced Topics in Conservation Science

Spring 2020

Graduate Seminar

Professor: Claire Kremen, [claire.kremen@ubc.ca](mailto:claire.kremen@ubc.ca)

**Office: AERL Rm 107**

**Class time: Tuesdays 2 – 5**

**Detailed Course Description:** This course is a graduate level seminar covering advanced topics in conservation of biological diversity. We will read a mixture of foundational as well as recent papers covering a range of topics within Conservation Biology. The class will encourage student engagement in various ways (e.g. through student-led discussions, interactive activities and group work on real conservation projects/peer review). About half of the classes will be devoted to lecture/discussion, and the remainder will be open classes for students to work together in teams, meet with the instructor about progress on their project, and meet with project sponsors. Lectures by instructor, and discussions primarily led by students, who will assist in the selection of discussion papers and development of full bibliography, create group activities and run the discussion of papers. Student selection of papers and development of discussion exercises provides an opportunity to learn the material much more thoroughly, as Emerson said, “the best wisdom cannot be communicated (but) must be acquired by every soul for itself” (Frederick 1989)<sup>1</sup>. Instructor-led lectures and ensuing discussions provide an overview of conservation science topics (see “Course Topics Description”) and help to lay a foundation for the *conservation projects* that students will conduct in pairs or teams. Lectures-discussions also prepare those students taking a qualifying exam in the topic of Conservation Biology.

Group projects (see “Overview of course projects - TBD”) represent an exciting and unique opportunity to contribute to conservation and learn/apply valuable skills. Projects will represent current needs from several conservation organizations, and students’ work will prepare deliverables that will help these organizations in their on-the-ground work. Group projects provide students with an experience similar to working on a team in a conservation NGO, and potentially could be developed further (in subsequent semesters) into a group publication or other deliverable.

**Prerequisites:** The course is open to all graduate students interested in the topic. Advanced undergraduates by permission of instructor. Some background in ecology is desirable.

**Course Format:** One 3-hour session weekly with ~30 minutes of lecture, 1.5 hour discussion / activities – and the remainder open for work on group projects. Attendance and participation in class is mandatory unless excused by the instructor.

**Credits: 3**

**Weekly Readings:** Will be posted on course website

---

<sup>1</sup> Frederick, Peter (1989). “The Dreaded Discussion: Ten Ways to Start”. In “Classroom Communication: Collected Readings for Effective Discussion and Questioning”, p. 1 – 11. Magna Publications, Madison, WI.

### Requirements and Grading (100 points)

1. Attendance and participation in all of the meetings<sup>2</sup>. (25 points)
2. Each student will work with the instructor (and possibly with another student) to select readings for the class they are assigned, develop discussion questions/activities, and provide other students with a bibliography (adding to existing biblio) for further reading (25 points).
3. Grading for final projects:
  - a. Group project:
    - i. Quality of deliverables for conservation NGO (35 points, instructor-assigned grade to entire group, with input from sponsors; 5 points are for timely production of draft for feedback)
    - ii. Contribution of individual to group (15 points, based on triangulation of self-evaluation worksheets filled out by each team member, as well as quality of work attributed to the individual)

### Topics and Rough sequence of classes

Introductory class covering logistics; also discussion methods/active learning techniques

NGO sponsor presentations

1<sup>st</sup> Group meeting

*Foundational theories:* island biogeography/metapopulation biology

*Foundational theories:* countryside biogeography/landscape ecology

Intrinsic versus utilitarian values of biodiversity

2<sup>nd</sup> Group meeting

How important is biodiversity really for ecosystem services?

*Landscape-scale conservation approaches:* protected areas

*Landscape-scale conservation approaches:* the role of communities

3<sup>rd</sup> Group meeting

*Landscape-scale conservation approaches:* working lands conservation

*Major challenges:* global change/adapting biosystems + group work

Final project presentations

### Preferred schedule for discussion preparation:

- 2 - 3 weeks in advance: Quick check in with Instructor about topic. Start reading papers on "Starter Reading List"; meet with partner student (if you have one); look for additional papers; come up with discussion exercise ideas

---

<sup>2</sup> If students must miss a class, they must notify the instructor in advance and write a brief summary/commentary on each of the discussion papers. Only one excuse per student please (barring extreme circumstances).

- *1 - 2 weeks in advance: Discuss your selected readings and exercises with Instructor. Add any new important papers to the overall reading list we are building.*
- *Continue working; exchange emails or meet again as needed.*
- *4 -5 days before class: Post readings on course website*