

Welcome to BIOL 370 / ES 320 – Spring 2017

Conservation Biology

Lectures: M and Th 10:00 AM to 11:20 AM

Location: ELL 167

Computer Tutorials: (time and location TBD)

Teaching Assistant: Aaron Eger

The best way to contact Dr. Nelson is by email at jnelson@uvic.ca and please put “Biology 370” in the subject line.

Instructor: Dr. R. John Nelson

Email: jnelson@uvic.ca

Office hours: M/Th 11:30-12:00 pm,

Cunningham 210 or by appointment

Course Background and Overview

We live on a human-dominated planet and face major environmental challenges. Conservation Biology is an applied science that focuses on how to protect, manage, and restore nature in the face of these challenges, while balancing the needs of people and nature. The issues conservation biology centers on – biodiversity loss and extinction, habitat degradation and loss, exploitation, invasive species, climate change – are big, complex, and challenging. They also are critically important for the future of humanity. Solving these problems requires applying the principles and tools of ecology (including population biology, community ecology, and biogeography), population genetics, economics, political science and other natural and social sciences. Like medical science, conservation biology is a value-laden discipline directed by a particular worldview. It is, nonetheless, a science – and to be conducted and scrutinized with clear eyes and hard numbers.

Our course will focus on relating ecological theory to conservation problems, using case studies highlighting current conservation issues to ground this theory. The course is divided into three themes: 1) The Rationale and Foundations of Conservation Biology, 2) Science to Inform Conservation Strategy, and 3) Conservation Challenges and Solutions, in which we will integrate and apply the knowledge gained from the first two sections to real-world conservation problems.

Course Learning Outcomes

By the end of this course you should be able:

- To understand, analyze and communicate the historical context, scientific basis, and goals of conservation, as well as the fundamental ecological concepts and tools of conservation biology;
- To understand and communicate the diversity of perspectives on conservation issues, the trade-offs involved in conservation decisions, as well as your own philosophy and perspective on conservation issues;
- To understand, analyze and interpret ecological models, graphs, and scientific results pertaining to conservation biology;
- To critically evaluate the scientific and lay literature related to conservation biology, and to place individual studies within the broader context of the discipline;
- To demonstrate improvement in effective writing and analytical problem-solving skills.

Instructor Expectations & Student Responsibilities

This course will only fulfill the learning outcomes outlined above if you commit:

1. **To reading the assigned materials prior to class.** The assigned readings will provide us with the common ground for lectures and discussions. Therefore, you will have to have read, comprehended, and absorbed the assigned readings to really get the most out of this class. A general rule of thumb is to plan to spend at least 3-5 hours a week reading and reviewing

lectures notes. All readings will be assigned and posted on CourseSpaces at least three days prior to the lecture in which they will be discussed.

2. **To attending class, and being prepared for and engaged in class.** Both you (the student) and I (the instructor) have a responsibility to come to class, to be on time, to be prepared to discuss the subject area, and to create a positive, constructive and respectful learning environment for others in the class. This includes turning cell phones off, not using electronic devices for activities unrelated to the class, and not leaving lecture early. This course will include lectures, as well as individual, pair, and small group activities, and discussions of assigned readings, all of which will be most successful if we all meet these responsibilities. You should also take notes throughout class, and later use the lecture overview slides to supplement your notes.
3. **To being an active participant in your learning.** Learning requires effort on both your and my parts. For you to succeed in this course, you must apply yourself to the best of your ability: think logically and critically, challenge yourself, and try to synthesize seemingly disparate concepts and facts. Finally, consult with me when additional help is required. I am here to facilitate your learning.

Course Materials & Communication

Required Text: Kareiva, P. & M. Marvier. 2015. **Conservation Science: Balancing the Needs of People and Nature.** Roberts and Company.

Required Readings: We also will read a variety of articles including ones from the primary and secondary literature, and the media.

BIOL370/ES 320 CourseSpaces Website: I will post all course announcements, readings, assignments, and the weekly lecture schedule on our course CourseSpaces website. I will also post lecture slides. Please be aware that these are overviews, not detailed notes, and are provided to help you organize and supplement your lecture notes. It is therefore **your responsibility to check our course website regularly for updates.** See: <http://elearning.uvic.ca> if you have questions about how to use Course Spaces.

Computer Tutorials: We will have a computer tutorial session during the semester to help you review and better understand the quantitative models covered in class. You are encouraged to attend to ensure you understand the material required to do the problem set.

Course Conduct: Talking in class, texting, etc., is disruptive and disrespectful to students sitting nearby and to the instructor. Please refrain from such activities or leave the lecture hall if you cannot.

Course Evaluation

Learning outcomes will be assessed based upon the following:

Assignments:

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| Problem Set | 15% |
| Essay: Conservation Biology Literature Critique | 15% |
| Midterm exam | 30% |
| Final Exam | 40% |

Overview of Evaluation Components

Assignments

Problem Set. This assignment is designed to help test your understanding of the basic concepts, ecological theories and models covered in lectures and readings. The questions may involve interpretation of data or models, short-answer questions about key concepts, simple calculations or spreadsheet model results.

Conservation Literature Critique. This essay will consist of a succinct (max. 3 pages) critical review of a recent peer-reviewed research article within the field of conservation biology. You will be given a choice of 4 papers and must sign up for one on CourseSpaces (maximum 25 students per paper, with availability on a first-come first-serve basis).

*Full details and instructions for each of the two assignments will be posted on CourseSpaces. Assignments that are handed in late will be penalized 15% per day.

Midterm exam

The mid-term exam will consist of multiple-choice, short answer, and longer written questions, and will be based upon the materials presented up to that point of the course course, including lectures, assigned readings, and ideas shared by guest speakers. The aim is to examine whether you have met the course learning outcomes and prepare you for the types of questions to expect on the final exam.

Final Exam

The final exam will consist of multiple-choice, short answer, and longer written questions, and will be based upon the full range of materials in this course. The aim is to ensure that you have met the course learning outcomes. You are required to write the Final Exam.

Grading Scale: Final grades will be assigned on the basis of the following UVic scale:

A+ 90-100% B+ 77-79% C+ 65-69%

A 85-89% B 73-76% C 60-64%

A- 80-84% B- 70-72% D 50-59%

Failure (F) is a grade less than 50%.

UVic Policies and Procedures

Policy on missing an exam: If you miss (or know beforehand that you will be missing) an exam because of illness, accident, family affliction, or commitments as an UVic athlete, you are required to contact the instructor in a timely manner. No other excuses other than the above are allowed. You are required to provide supporting documentation i.e. from a medical doctor, UVic counseling services, or a member of the UVic coaching staff.

Academic Integrity: It is your responsibility to familiarize yourself with UVic's Academic Integrity Policy regarding what constitutes plagiarism, how to avoid it, and the potential consequences.

Accessibility: Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodation to ensure that you succeed in this course, please talk to me or the staff at the UVic Resource Centre for Students with a Disability as soon as possible. The RCSD staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <http://rcsd.uvic.ca/>. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Positivity and Safety: UVic is committed to promoting, providing and protecting a supportive and safe learning and working environment for all its members.

A finalized schedule and required readings for each lecture will be posted on our CourseSpaces website. You are responsible for checking it regularly