

**BIOL/NRMT3232 WA
Conservation Biology
Course syllabus**

Winter term 2020

- TEXTBOOK:** Primack, R.B., and A. A. Sher. 2016. *An Introduction to Conservation Biology*. Sinauer, Sunderland Massachusetts
- INSTRUCTOR:** Dr. Nancy Serediak
office: nope
email: nseredia@mycourselink.ca
- OFFICE HOURS:** immediately after class or by appointment
- LECTURES:** MWF: 1:30 – 2:30 pm – ATAC 2015
- TUTORIAL:** F: 2:30 – 4:30 pm – CB 3010A
- EVALUATION:**
- | | | |
|--------------------------|---|-------------------------------------|
| Lecture Midterm | = | 15 % (Friday 14 February 2020) |
| Lecture Final | = | 15 % (TBD) |
| Written Assignment 1 | = | 5 % (due Wednesday 22 January 2020) |
| Written Assignment 2 | = | 10 % (due Wednesday 4 March 2020) |
| Written Assignment 3 | = | 15 % (due Friday 3 April 2020) |
| Tutorial Activities (10) | = | 40% |
- GRADES:**
- | | |
|-----------------------|--|
| A+ | ≥ 90 |
| A | = 80 – 89 (1 st class standing) |
| B | = 70 – 79 |
| C | = 60 – 69 |
| D | = 50 – 59 |
| E | = 40 – 49 (failed) |
| F | = 1 – 39 (failed) |
| F Academic Dishonesty | = 0 |

Withdrawal without academic penalty: 6 March 2020

COURSE OBJECTIVES:

Lectures

We live on a planet that is increasingly affected by human activities. These activities are affecting the entire global environment – both aquatic and terrestrial, the great diversity of life with which we share this environment, and ultimately the very processes upon which all life depends.

This course for senior undergraduate students and is designed to introduce them to the essential concepts relevant to conservation biology. Themes include major threats to biological diversity and strategies that have been employed to mitigate these threats. Important issues

include threats to biodiversity (e.g., extirpations, extinctions), and habitat (e.g., degradation, pollution, loss), all exacerbated by climate change. These are large, complex, and challenging issues that impact human concerns including economics, politics, societies, standards of living, and even human survival. These concerns requires solutions that incorporate applications from ecology (ranging from population ecology to biogeography) systematics, genetics, bio- and geochemistry, economics, political science, sociology and other natural and social sciences.

Topics to be covered within these themes will include habitat fragmentation and biodiversity effects, small and declining populations, conservation genetics, overexploitation, invasive species, climate change and human activities, and activities that serve, or attempt to serve at conserving biodiversity. Included are discussions of the history of the field, ethics, economics, and the effects of political decisions and how these factors influence approaches to conservation. Course instruction will involve lectures and three papers of varying length; course evaluation will be based on a midterm, a final exam, written assignments, and tutorial activities.

Learning Outcomes

The objectives of this course are for you to:

- understand the historical context of conservation biology, the major concerns, goals, and science of conservation, and major contemporary issues
- understand different perspectives on conservation issues and the basis for these differences, as well as the tradeoffs and pressures involved in conservation decisions
- communicate the science behind results relating to conservation biology through writing exercises and development of analytical problem-solving skills
- critically evaluate the literature (both scientific and popular), and place reports and studies within the overall discipline of conservation biology
- develop your own philosophy and perspective on the issues relating to conservation

To succeed in reaching these goals and in this course you will need to attend class and tutorials, and commit to being prepared and engaged. You will get out what you put in.

Written Assignments

There will be three written assignments in this course:

1. The first paper will be short and will require you to write a summary of a primary research article. The article will come from a Journal publishing primary research relevant to conservation (e.g. Conservation Biology, Biological Conservation, Conservation Genetics, Ecology).
2. The second paper will be to summarize the assessment, biology, threats, and propose what needs to be done to provide a recovery plan for a species at risk as assessed by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) in 2017 as being either Endangered, Threatened, or Special Concern. Your paper will be based on the COSEWIC species assessment. A list of these species, and the URL's to the assessment document(s) will be provided in class. Species will be chosen on a first come first served basis.
3. The final paper will be based on a topic of conservation concern. A list of topics (or one of your choosing with instructor approval) will be made available. Additional details on these assignments will be discussed in class and posted to the course web site. Please do not leave these written assignments to the last minute. They involve a substantial amount of preparation and study before beginning to write the paper itself.

Tutorials

Tutorials will supplement lectures and are discussion, presentation, or activity based. Topics will include assigned readings, videos, and/or current events in the news. Activities may involve breaking up into randomly assigned groups. Grading will be based on participation and contributions to the discussion/presentation, as well as very short assignments designed to be completed during the tutorial.

Course Policies

Exams

Missed exams will receive a grade of zero unless you are absent for a documented valid reason such as a family or medical emergency. If you wish to have an exam regraded you must submit a written explanation of why you think the assigned grade was incorrect within two weeks of return of the exam. Be aware the entire exam will be re-evaluated and your mark may go up, remain the same, or go down.

Note: this does not apply to arithmetic errors such as incorrect addition. Please bring these types of errors to my attention for correction as soon as possible.

Written Assignments

Written assignments submitted late will be penalized 10% per day except for a documented valid reason such as a family or medical emergency. Papers will not be graded in the absence of a completed and signed form indicating the understanding of plagiarism in its many forms. This will require the completion of an online exercise and quiz relating to plagiarism. Additional direction regarding topics and format will be provided in class.

Academic Dishonesty

(The following is taken directly from the University website, with minor modification.)

The University takes a most serious view of offences against academic honesty. Penalties for dealing with such offences will be strictly enforced.

The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.

(a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a course will be a zero for the work concerned.

(b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the examination is scheduled to be written, will receive zero for the course and may be expelled from the University.

A copy of the "Code of Student Behaviour and Disciplinary Procedures" may be obtained from the Office of the Registrar.

Course lecture and tutorial schedule*

Week	Lecture	Material	Tutorial
1	History, philosophy, ethics		Counting things
2	Global biodiversity		Effective population size
3	Biodiversity loss	Assignment 1	MVP using the Leslie matrix
4	Habitat loss/fragmentation		Habitat fragmentation
5	Invaders		Invasive species and eDNA
6	Genetic diversity	Midterm	No tutorial this week
Week 7 Reading Break	relax	refresh	refocus
8	Climate change		How many cottages per lake?
9	Strategies (<i>in situ</i> , <i>ex situ</i>)	Assignment 2	Agriculture, animals, and water
10	Protected areas		Developing a monitoring program
11	Restoration ecology		Developing an index
12	New populations		Information is beautiful
13	Environmental law	Assignment 3	No tutorial this week

*hopefully