

Department of Biology Course Outline

SC/BIOL 4245 3.0 Conservation Biology Fall 2020

Course Calendar Description

Explores the role of biological science in efforts to conserve natural resources, systems and the organisms therein. Cross-listed to ENVB 4245 3.00. Two lecture hours per week. The laboratory component will be converted to several exercises for the Fall 2020 version of the course. One term. Three credits.

Prerequisites

SC/BIOL 2050 3.00 *Ecology*; SC/BIOL 2060 3.00 *Statistics for Biologists*.

Course Instructors and Contact Information

- Professor Alex Mills
 - ammills@yorku.ca
 - This is the address of first contact for all course-related matters
 - Please include “BIOL 4245” in the subject line
 - Note that most standard requests will be dealt with through links and FAQs, and emails will not be answered
 - Students should send emails from @my.yorku.ca email
 - Reply may take up to 48 hrs; email is active Mon-Fri, 8:30 am to 4:30 pm
- Office: There will be no in-person contact as per University policy for this course

Expanded Course Description

Conservation Biology focuses on the welfare of biodiversity. Its scholarship is multidisciplinary, dealing variously with ecology, evolution, genetics, ethics, society, politics, and law. Extinction is natural, but current rates of extinction and processes promoting extinction and other ecological imbalances are exceptionally high compared to rates experienced over most of the past half billion years. Because these threats to biodiversity are mostly human-generated, we are said to have entered the *Anthropocene*, an era characterized by dramatic ecological changes caused by our highly influential species.

Course Learning Outcomes

Upon successful completion of this course students should be able to demonstrate an understanding of the following:

Area 1. Fundamental Understanding:

- Explain the scales of biodiversity that are the focus of conservation
- Use terminology appropriate to the field of conservation biology
- Integrate knowledge of genetics, evolution, diversity, and population biology in demonstrating an understanding of conservation biology
- Identify organisms, including Canadian ones, that are suffering population declines
- Describe the processes and levels of government involved in assessing the status of threatened wildlife
- Place the current period of extinction in paleo-historical context
- Compare and contrast different solutions to declining population patterns
- Apply economic thinking (costs, public resources) to conservation problems
- Itemize techniques used by Conservation Biologists in managing conservation problems

Area 2. Critical Thinking Skills

- Apply biological principles to the area of public policy
- Assign conceptual categories of threat to particular cases of population decline
- Articulate the limitations of recovery based upon different species' natural history and life history characteristics

Area 3. Problem Solving Skills

- Devise ways of analyzing existing data to determine if populations are stable, including the use of basic statistics
- Use sophisticated methods of literature searching to find material that is relevant for a particular subject area
- Evaluate alternative biological and policy approaches to issues of conservation biology

Area 4. Effective Communication

- Create a visual presentation of a data analysis problem
- Create and deliver an audio of a particular research program
- Write a political letter advocating for a particular conservation strategy or solution
- Perform basic literature searches and find library resources relating to biological topics

Area 5. Social Skills

- Work with one or more partners in producing and communicating scientific information
- Advocate for a conservation position over a competing position
- Demonstrate the connection between biological harm and societal or personal valuation

Evaluation

1. Three open-book, written answer “tests” (= timed assessments) during class time:
 - Tuesday, October 6th
 - Tuesday, November 10th
 - Tuesday December 8th
 - Value: **51%** of course grade (17% each)
 - Platform: Either eClass or Crowdmark
 - Missed tests: There will be a make-up test during the December Exam period. So, if you write all three tests, you have no final exam
2. Four exercises, due intermittently. (See Course Schedule on eClass).
 - #1 COSEWIC and IUCN Red List species summaries (5%)
 - #2 Political letter writing (5%)
 - #3 Bird population trends (6%)
 - #4 Quirks and Quarks™ mock interview (8%)
 - Value: **24%** of the course grade
 - These are due on Fridays at 5 pm, but there is no late penalty if received before 8:30 am on the following Monday
3. Five paper synopses, due intermittently. (See Course Schedule on eClass).
 - Value: **25%** (5% each)
 - These are due on Fridays at 5 pm, but there is no late penalty if received before 8:30 am on the following Monday
 - These will be examinable on the Final (December 8) test

There will be no opportunities for extra credit assignments, etc.

Course Materials

- Free, open-access (\$0.00) Textbook: *Conservation Biology for All* has been generously made available in its entirety, free of charge, by the Publisher.
 - This text is available through the eClass for the course
 - This is a secondary resource
- The Exercises and Synopsis papers will be provided by way of PDF files mounted on the Course eClass page

Important Dates

Last Day to drop the course without receiving a grade: November 6th, 2020

Final Exam period (for make-ups for missed tests only): December 9th to 23rd, 2020

For additional important dates such as holidays, refer to the “[Important Dates](#)” section of the Registrar’s Website.

Laboratory

- Labs from the 2019-20 version of the course have been replaced with Exercises delivered through eClass
- Exercises vary in terms of the length of time to be invested

Experiential Education and E-Learning

E-Learning: Remote delivery with asynchronous and synchronous sessions, including use of personal response systems and Zoom™

Course Content and Format – Remote Delivery ... here's how.

In “normal” years, this course uses an in-person format with 3 lecture hours per week and ~10 three-hour labs per term. Because remote delivery is required during Fall 2020, we will not have in-person contact hours. Its digital delivery will use eClass (course management system), **Zoom™** (video conferencing platform), and we will use either eClass or **Crowdmark™** for tests (online assessment platforms). We will not have digitally invigilated exams during the December exam period. So, the course will end when you finish the 3rd test on December 8th. However, note that there are make-up tests during the December exam period if you miss any of the mid-terms for a valid reason.

The course content will be delivered through five means:

1. Readings from the *Conservation Biology for All* eText, as well as other posted readings or reading for which links are provided.
2. Introductions to the four “lab” exercises (delivered through eClass),
3. Synchronous meeting with Professor Mills every Thursday from 11:30 am to 12:20 pm
 - This will be a conventional lecture in real-time using Zoom
4. Asynchronous meeting(s) with Professor Mills, recorded and posted on eClass
 - (Technically, Tuesdays from 11:30 am to 12:20 pm, but this is not a live meet)
 - Between the synchronous and asynchronous meetings, there will be 2 lecture hours (100 minutes) per week
 - This is also the time slot for our three tests, ***which will be synchronous***
5. Online office hours, through either eClass chat or Zoom

The lecture schedule and material will be posted on eClass.

Course Policies

1. Email etiquette:

- Please use your @yorku email address when emailing Professor Mills or your TA
- Please include BIOL 4245 in the subject line.
- Please include your name and student number at the end of each email.
- Remember, you're in a professional environment. Please don't use text-messaging language or block capital messages.
- Please allow 48 hours (2 work days) for a response.

2. Missed tests:

- If you are ill and therefore cannot write a midterm, please advise Professor Mills by email on the day of the missed assessment. If the university allows it, an Attending Physician's Statement (APS) will be required: <https://secure.students.yorku.ca/pdf/attending-physicians-statement.pdf>,) or a similarly detailed doctor's note. A note that simply says you were seen in the clinic will not be accepted.
- Death of an immediate family member requires a death certificate or letter from the funeral director.

- If you miss a test because of a legitimate documented reason, you will write a make-up test during the December exam period.
- If you miss a test because of schedule confusion, sleeping in, personal endeavours (including a job), busy lives (including too many assignments or tests that same week/day, etc.), personal travel, you will earn a zero and not be permitted to write a make-up test.

3. Accommodations:

- Submit your Student Accessibility Services accommodation letter to Professor Mills by September 15th through the link on eClass
- If you are entitled to extra test writing time, you will be accommodated via extended time set up through eClass or Crowdmark.
- Please provide Professor Mills and your TA three weeks' notice of any **religious observance conflicts** occurring at any point during the term, for which accommodations will be required.
- Students who feel that there are extenuating circumstances that may interfere with their ability to successfully complete the course requirements are encouraged to discuss the matter with the Course Director as soon as possible.
- Manage your workload: "Senate policy states that students are expected to monitor their progress in courses, taking into account their personal and academic circumstances, and to make the necessary adjustments to their workload to meet the requirements and deadlines." The drop deadline is November 6th, 2020.

Copyright and Intellectual Property

- PowerPoints used during lectures are the © property of Professor Mills, as are the recorded lectures
 - Permission is granted to copy them for your own use
 - It's a breach of copyright to upload them to the internet, including sites like One Class, Course Hero, WeChat, Chegg, etc.
- Tests are the © property of Professor Mills
 - It's a breach of copyright to copy them in any form, and it is a breach therefore to upload them to the internet, including to sites like One Class, Course Hero, WeChat, Chegg, etc.
 - It's a breach of York's Policy on Academic Honesty to upload tests or assignments to third party sites on the internet, including to sites like Once Class, Course Hero, WeChat, Chegg, etc.

University Policies

Academic Honesty and Integrity

York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - http://www.yorku.ca/spark/academic_integrity/index.html

Access/Disability

York University is committed to principles of respect, inclusion and equality of all persons with disabilities

across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:

Counselling & Disability Services - <http://cds.info.yorku.ca/>
Counselling (Glendon) - <http://www.glendon.yorku.ca/counselling/personal-counselling/what-is-counselling/>
York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

Ethics Review Process

York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants*. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - <http://secretariat-policies.info.yorku.ca/policies/disruptive-and-or-harassing-behaviour-in-academic-situations-senate-policy/>