

## Department of Biology Course Outline

SC/BIOL 4245 3.0 Conservation Biology  
Winter 2024 – In-person Delivery  
Components may change up to January 22<sup>nd</sup>, 2024

### 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. One term. Three credits.

*Taught in person:* Lectures are not recorded.

### 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](mailto:ammills@yorku.ca)
  - Room 134 Chemistry Building
- Course TAs:
  - Hadil Elsayed (Tuesdays)
  - Nargol Ghaziantafrishi (Fridays)

### 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 population parameters 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 and deliver 2 audiovisual presentations of case studies
- Write effective synopses based on primary reading of research articles or other written material
- Perform basic literature searches and find library resources relating to biological topics

### Area 5. Social Skills

- Participate in in-person discussion forum
- Advocate for a conservation position over a competing position
- Demonstrate the connection between biological harm and societal or personal valuation

### Evaluation

Labs (6 components) **35%**

- See Lab Syllabus appendix posted on eClass

Mid-term Thursday February 15<sup>th</sup>, 2023 in class **22%**

Cumulative Final Exam during the April Final Exams period (April 10 to 26) **43%**

**Missing the midterm is not optional.** You must provide documentation within 48 hours of the missed midterm. If you do miss the midterm and your excuse for missing it is approved, your final exam will be worth 65%.

**You must pass the lecture part of the course.** If you get 35/35 on the labs, but only 32/65 on the lecture part, you will have 67%, but you will get an E for failing the lecture part of the course.

### Important Dates

- Last Day to drop the course without receiving a grade: Monday, March 11<sup>th</sup>, 2024

### Experiential Education and E-Learning

- Experiential Education: Analysis of real data (lab exercise)

### Course Content and Format

The course content will be delivered through 5 means:

1. Lectures delivered in class twice per week
2. Readings posted on eClass
3. PowerPoint slides (used in lectures) posted on eClass
4. Online office hours by Zoom (Thursday 1 to 2 pm; Friday 10 to 11 am)
5. Lab instructions posted on eClass

## Course Policies

- **Questions and Concerns should be directed to**
  - *Lecture material*: During office hours by Zoom
  - *Missed assessments, late submissions, grading errors, accommodations*: By way of email to Professor Mills ("BIOL 4250" in the subject line) using ammills@yorku.ca
  - *Labs*: Your assigned Lab Demonstrator/Grader, whose contact information will be provided to you
- **Late Submissions of Labs**
  - Students lose 20% per day
- **Policy for a missed test or exam or for a late exercise**
  - Neither *Travel* nor *Employment* exempts a student from writing a test or a deferred test
  - Don't purchase a travel ticket that conflicts with a test or the Final Exam period
  - Medical reasons are valid reasons, but advise Professor Mills within 48 hours if you wish to not get a zero grade
  - You may be required to supply an Attending Physician Statement

## Copyright and Intellectual Property

- PowerPoints used during lectures are the © property of Professor Mills
  - Permission is granted to copy them for your own use
  - Advice: **Print in grayscale**, or you will spend too much money on ink!
  - It's a breach of copyright to upload them to the internet, including sites like One Class, Course Hero, WeChat, Chegg, etc.
- Both Mid-term tests and Final Exams 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

Suspected breaches of academic honesty will be investigated and charges shall be laid if reasonable and probable grounds exist.

Major prohibitions under York's policy are the following, and some of these are also prohibited by the Criminal Code of Canada:

- No cheating
- No impersonation
- No falsification of documents
- No plagiarism
- No prohibited collaboration
- No obstruction
- No aiding and abetting others
- No disseminating information without permission

Please familiarize yourself with the full *Senate Policy on Academic Honesty*, found at <http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>

Please also familiarize yourself with the *SPARK Academic Honesty tutorial* found at <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>

#### Message from the Faculty of Science Dean's Office Regarding Academic Honesty

Numerous students in Faculty of Science courses, including NATS courses, have been charged with academic misconduct when materials they uploaded to third party repository sites (e.g. **Course Hero, One Class, WeChat, Chegg**, etc.) were taken and used by unknown students in later offerings of the course. The Faculty's *Committee on Examinations and Academic Standards* (CEAS) found in these cases that the burden of proof in a charge of aiding and abetting had been met, since the uploading students had been found in all cases to be willfully blind to the reasonable likelihood of supporting plagiarism in this manner. Accordingly, to avoid this risk, students are **prohibited from uploading** their work to these sites. Whenever a student submits work obtained through Course Hero or One Class, the submitting student will be charged with plagiarism and the uploading student will be charged with aiding and abetting. Note also that exams, tests, and other assignments are the copyrighted works of the professor assigning them, whether copyright is overtly claimed or not (i.e. whether the © is used or not). Scanning these documents constitutes copying, which is a breach of Canadian copyright law, and the breach is aggravated when scans are shared or uploaded to third party repository sites.

#### Academic Accommodation for Students with Disabilities

York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses.

Please familiarize yourself with the full *Senate Policy on Academic Accommodations for Students with Disabilities*, found at <http://secretariat-policies.info.yorku.ca/policies/academic-accommodation-for-students-with-disabilities-policy/>

- Student Accessibility Services - <https://accessibility.students.yorku.ca/>
- York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

**Note:** A student registered with SAS and choosing to write with Alternate Exams, is responsible for making the appropriate arrangements within the timeframes set by Alternate Exams.

Alternate Exams - <http://altexams.students.yorku.ca/>

#### Religious Observance Accommodation

Students who will have an academic conflict as a result of a religious observance at any point in the term should make the instructor aware of such at least three weeks prior to the conflict.

For religious conflicts occurring during an official examination period, please complete the Examination Accommodation Form available at <https://www.yorku.ca/science/chemistry/wp-content/uploads/sites/189/2021/01/Religious-Accommodation-Agreement-fillable-form.pdf> and submit to your instructor at least three weeks prior to the final exam.

### **Student Conduct in Academic Situations**

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom 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. A statement of the policy and procedures regarding disruptive and/or harassing behaviour by students in academic situations is available on the website of the University Secretariat (<http://secretariat.info.yorku.ca/>).

### **Other Resources**

#### **Learning Commons**

The Learning Commons brings together key supports for your learning: writing, research, learning skills and career services. <http://www.library.yorku.ca/cms/learning-commons/>

#### **goSAFE**

goSAFE is a complimentary service provided to the York Community. At the Keele campus, goSAFE has two routes: North Route & South Route which will safely transport community members by vehicle from one specified hub to another on campus. goSAFE operates seven days a week, all year round, including University closures (with the exception at Glendon during the Christmas holiday closure).

Call the goSAFE office at 416-736-5454 or extension 55454 during hours of operation. Please give your name, location and destination. <http://www.yorku.ca/goSAFE/>

#### **Mental Health and Wellness at York University**

Outlines a variety of resources available to support mental health and wellness <http://mhw.info.yorku.ca/resources/resources-at-york/students/>

#### **Good2Talk**

Post-Secondary Student 24 hour Helpline  
<http://www.good2talk.ca/> 1-866-925-5454