

**Faculty of Science Course Syllabus
Department of Biology**

**Nature Conservation (BIOL 3601)
Winter 2025**

Instructor: Rajesh Rajaselvam Email: Rajesh.Rajaselvam@Dal.Ca Office: LSC 7130
Office Hours: Monday/Wednesday 14:30 - 15:30 hrs, Thursdays by appointment only

Lectures: Tuesday & Thursday 8:35 – 9:55 hrs (LSC C 240)

Tutorials: 6 tutorials (80 min/tutorial)
Tuesday 17:35 – 18:55 hrs (LSC C 202, C 214, C216 and C234)

** Delivery of Lectures and Tutorials: In-person only (Attendance at lectures and tutorials is highly important)*

Course Description

This interdisciplinary course explores relationships between humans and the natural world, including damage caused to species and ecosystems. The course looks at environmental ethics and world views, environmental philosophy, sustainability, and conservation science and actions, including the establishment of protected areas. The ultimate focus will be on combating threats to nature, and major conservation challenges. This interactive course emphasizes student involvement and participation.

Course Prerequisites

BIOL 1010.03 (or BIOL 1020.03 or BIOA 1002.03) or BIOL 1011.03 (or BIOL 1021.03 or BIOA 1003.05); or SCIE 15XX, or permission of instructor.

Course Textbooks

T1: Peter Kareiva & Michelle Marvier. **Conservation Science (2nd ed., 2017)**. Macmillan Learning.
T2: Paul R. Ehrlich, Gerardo Ceballos, & Rodolfo Dirzo. **Before They Vanish: Saving Nature's Populations and Ourselves (2024)**. Johns Hopkins University Press.

(Recent journal articles are also included in the teaching material)

**The textbooks are not compulsory.*

Learning Objectives

- Describe the need for nature conservation.
- Understand the impacts of threats and challenges to biodiversity.
- Demonstrate basic knowledge of environmental ethics and sustainability.
- Facilitate conservation decision-making on national and international concerns.
- Showcase a deeper understanding of a specific conservation topic through formal group oral presentations and report writing.
- Analyze and discuss literature on nature conservation.

Course Assessment

| Assignment, Exam, or Presentation | Marks % | Date |
|--|------------|---------------------|
| Quiz 1 | 08 | Feb 11 |
| Mid-Term Exam | 24 | Feb 25 |
| Oral Presentation (group presentation) | 10 | Mar 18, 20, 25 & 27 |
| Quiz 2 | 08 | Apr 01 |
| Lab/Seminar Reports | 20 | TBA |
| Final Exam | 30 | TBA |
| Total | 100 | |

Oral Presentation

Students are expected to do a 10 + 2 minute power point presentation (group) on their chosen topic related to Nature Conservation.

Grading Scale

Conversion of numerical grades to Final Letter Grades follows the [Dalhousie Common Grade Scale](#)

| | | | | |
|-------------|------------|------------|---|---------|
| A+ (90-100) | B+ (77-79) | C+ (65-69) | D | (50-54) |
| A (85-89) | B (73-76) | C (60-64) | F | (<50) |
| A- (80-84) | B- (70-72) | C- (55-59) | | |

Course Policies

General Policies:

Class participation is considered vital.

Tutorial/Seminar sessions are compulsory. Complete attendance at all lectures is highly recommended since it helps to improve your grade significantly. A two-week period is given for tutorial submission.

Meeting deadlines is mandatory. No late submission without a valid reason is accepted for marking.

Brightspace (course web tool) is used for regular updates and announcements. TAs are the first point of contact (unless for major issues). Copying the instructor on messages is highly recommended.

Specific Policies:

The policies will only be implemented when a student's absence is due to physical or mental health conditions; involvement in an accident; immediate family illness, injury, or death; or other extenuating circumstances as described in Dalhousie University's Academic Calendar Regulation: Missed or Late Academic Requirements due to Student Absence (SDA)⁽¹⁾. The student must notify the instructor or

teaching assistant *prior* to the academic requirement deadline and must submit a completed Student Declaration of Absence form⁽²⁾. No more than **two (2)** separate Student Declaration of Absence (SDA) forms may be used per course during a single term. SDA forms are valid **only** for tutorials, mandatory lectures/presentations & quizzes (not for submission deadlines).

Quizzes

- If quiz #1 is missed for a valid and credible reason, those marks will be re-distributed to quiz #2
- If quiz #2 is missed for a valid and credible reason, those marks will be re-distributed to the final exam
- If both quizzes are missed, only one will be re-distributed

Midterm Exam and Final Exam

- One makeup exam can be scheduled for any student, provided the original examination was missed for a valid and credible reason (documentation may be required). The instructor or teaching assistant must be notified prior to the examination start time.
- The makeup exam will be a different exam than the one given during the regularly scheduled examination time.
- If the missed exam is a final examination in the Fall term, the makeup exam will be scheduled for January of the following year.

Tutorials

- Missing a tutorial is only acceptable in those cases where the student has notified the teaching assistant prior to the start time of the tutorial with a valid and credible reason.

Altogether, **no more than three (3) evaluations** (tutorials, quizzes, and exams combined) may be missed, as there will not be enough material to adequately evaluate the student.

⁽¹⁾Academic Calendar Regulation: Missed or Late Academic Requirements due to Student Absence: <https://www.dal.ca/content/dam/www/about/leadership-and-governance/university-policies/student-absence-regulation.pdf>

⁽²⁾Student Declaration of Absence Form: <https://www.dal.ca/content/dam/www/about/mission-vision-and-values/edia/student-declaration-absence-form.pdf>

Course Content

Schedule (Tentative)

A. Lectures

Week 1

Jan 07 - Course Introduction: Nature Conservation

Jan 09 - Why conservation is needed I: Biodiversity and extinction (*T1 Chap 2, T2 Chap1 & Journal Articles*)

Week 2

Jan 14 - Mass Extinctions: Are we heading to the sixth mass extinction? (*T2 Chap 2 & 3, Pre tutorial session*)

Jan 16 - Why conservation is needed II: The value of valuing nature: Current issues (*T1 Chap 2, T2 Chap 11 & Journal Articles*)

Week 3

Jan 21 - Protected areas: A cornerstone of conservation (*T1 Chap 5 & 6, & Journal Articles*)

Jan 23 - The performance and potential of protected areas: Discussion session

Week 4

Jan 28 - The guide: Movie on "Gorongosa restoration story" (*Pre tutorial session*)

Jan 30 - COPS (Conference of Parties) and Conservation: Challenges and Strategies/Asia and Australia (*Interactive Seminar*)

Week 5

Feb 04 - Choosing conservation actions (*T1 Chap 9 & 11, & Journal Articles*)

Feb 06 - Nature Conservation: Media

Week 6

Feb 11 - Introduction to students' oral presentation, **Quiz 1 ...8 Marks**

Feb 13 - Conservation: Current Issues, Midterm Review

Week 7:

Study Break

Week 8

Feb 25 - Midterm Exam (8:35 – 9:55 hrs, LSC C 240)...24 Marks

Feb 27 - Pre tutorial session, Oral presentation discussion (*TAs*)

Week 9

Mar 04 - Reversing deforestation I (*T1 Chap 13, T2 Chap 7 & Journal Articles*)

Mar 06 - Reversing deforestation II: Current issues (*T1 Chap 13, T2 Chap 7 & Journal Articles*)

Week 10

Mar 11 - Balancing agriculture and conservation (*T1 Chap 14, T2 Chap 7 & Journal Articles*)

Mar 13 - Managing fresh water for people and nature (*T1 Chap 16 & Journal Articles*)

Week 11

Mar 18 & 20 - Students' Presentations 10 Marks

Week 12

Mar 25 & 27 - Students' Presentations 10 Marks

Week 13

Apr 01 - Quiz 2 8 Marks

Apr 03 - Making conservation a success story: Current issues (*T1 Chap 19, T2 Chap12, Journal Articles*) & End-Term revision

Final Exam (TBA/Scheduled by Registrar) ...30 marks

B. Seminar/Tutorial sessions

Attendance Mandatory, (4 x 5) = 20 marks

Jan 14: Tutorial 1: Mass Extinction: Are we heading to another? (**Report required**)

Jan 28: Tutorial 2: "Gorongosa": Restoration story (**Report required**)

Feb 11: Tutorial 3: Paper critique/ TA Discussion (**Report required**)

Topic/Discussion on oral presentation (group activity)

Mar 04: Tutorial 4: Conservation poster (**Report required**)

Mar 11: Tutorial 6: PPT preparation and submission (group activity)

Mar 25: Students' presentations

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Missed or Late Academic Requirements due to Student Absence

As per Senate decision instructors may not require medical notes of students who must miss an academic requirement, **including the final exam**, for courses offered during fall or winter 2020-21 (until April 30, 2021). Information on regular policy, including the use of the Student Declaration of Absence can be found here: https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html.

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

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