

**Faculty of Science Course Syllabus (Section A)****Department of Biology***Resource Ecology BIOL & MARI 3063**Winter 2022-2023*

*Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.*

*We acknowledge the histories, contributions, and legacies of the African Nova Scotian people and communities who have been here for over 400 years.*

<b>Instructor(s):</b>	Heike Lotze ( <a href="mailto:Heike.Lotze@dal.ca">Heike.Lotze@dal.ca</a> )
<b>Teaching assistant (TA):</b>	Emily Cormier ( <a href="mailto:Emily.Cormier@dal.ca">Emily.Cormier@dal.ca</a> )
<b>Lectures:</b>	Two 1-hour lectures per week: Online, asynchronous recordings
<b>Tutorials:</b>	One 2-hour tutorial per week: Fridays, 11:35-13:25, in-person
<b>Course delivery:</b>	Blended as indicated above

---

**Course Description**

This class considers the ecology, utilization, and management of natural resources in fisheries, wildlife and forest management, agriculture and aquaculture. Topics include population dynamics, community interactions, and ecosystem support of resources as well as the history of resource utilization, practices of controlling production, pests, and predators, and sustainable management strategies.

**Course Prerequisites**

BIOL 2060.03, MATH 1000.03 (or MATH 1215 or STAT 1060.03 or DISP)

**Course Exclusions**

None

**Learning Objectives**

Content:

- Define living natural resources
- Describe the history of exploitation in terrestrial, marine and freshwater living resources
- Summarize the current state of global fisheries, wildlife, forestry, agriculture and aquaculture
- Explain the fundamental principles and ethics of resource management and conservation
- Outline how to monitor and assess the distribution and abundance of resource populations
- Identify environmental factors and biological interactions that influence resource abundance
- Identify how species diversity, food-webs and ecosystems influence resource abundance
- Point out the influence of economic and social factors on natural resources
- Assess practices of controlling resource production, pests, and predators
- Summarize the range of human impacts on natural resources
- Recommend management strategies that foster sustainability

Skills:

- Produce an independent project researching the biology, population status, exploitation history, management and conservation of a resource species
- Compose an oral presentation summarizing the independent research project

- Write a formal scientific briefing to inform a politician/manager about a resource species in question
- Produce an infographic and write self-reflection essay on a food choice assessment

### Course Materials

There is no textbook, but lectures and tutorial materials will be available on Brightspace  
<https://dal.brightspace.com/d2l/home/250719>

### Course Delivery (blended)

- Course Brightspace page <https://dal.brightspace.com/d2l/home/250719>
- Lectures will be online asynchronous:
  - o Panopto recordings posted on Brightspace
  - o Lecture slides posted as pdfs on Brightspace
- Tutorials will be in-person:
  - o Fridays: 11:35-13:25
  - o Attendance is required, sessions will not be recorded
  - o Students scientific briefing presentation slides will be posted as pdfs on Brightspace
- Exams will be in person
- Contact with instructor and TA:
  - o At the end of each tutorial students have time to ask questions in person
  - o There is the discussion board on Brightspace to ask questions
  - o Email us with any questions or concerns, we can schedule chats or video calls if needed

### Course Assessment

Assessment	Weight (% of final grade)	Date
<b>Midterm exam</b>	15%	<i>Feb 17, 2023, 11:35-13:25 (one hour, in-person, during tutorial time)</i>
<b>Final exam</b>	30%	<i>(two hours, scheduled by Registrar)</i>
<b>Assignments</b>		
- <i>Resource use</i>		
o <i>Survey I</i>	2.5%	<i>Jan 20, 2023 (in tutorial) 11:35-13:25</i>
o <i>Survey II</i>	2.5%	<i>Apr 11, 2023 (in tutorial) 11:35-13:25</i>
- <i>Scientific briefing</i>		
o <i>Oral presentation</i>	15%	<i>in tutorial, different dates for each student</i>
o <i>Written briefing</i>	15%	<i>one week after student's oral briefing</i>
- <i>Food choice</i>		
o <i>Presentation</i>	10%	<i>Mar 31, 2023, 11:35</i>
o <i>Written reflection</i>	10%	<i>Mar 31, 2023, 11:35</i>

### Other course requirements

- *Attendance of in-person tutorials and participation in discussions will be used to upgrade or downgrade final grades that are between marks*

### 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 on Missed or Late Academic Requirements

- All assignments have a strict deadline; late assignments will be docked 10% per day late; missed assignments and exams will count 0%; with the following exceptions:
- In case of illness, please use the Student Declaration of Absence (SDA) form for late or missed academic requirements. Late penalties will not apply if SDA is submitted prior to the due date. Maximum 2 uses of the SDA per term. Students who are ill for an extended period and thus miss multiple requirements should be referred to Assistant Dean (Student Affairs).
- In case of technological malfunction (internet failure, power outage), please notify the instructor via email as soon as possible and provide a written explanation.
- If excused, we will provide the following alternative arrangements:
  - missed midterm exam: the % value will be shifted to the final exam.
  - missed final exam: a make-up exam will be offered on another date.
  - missed assignments: an extended deadline will be offered.
- The content of cancelled lectures or tutorials will be integrated into following classes in abbreviated form; only topics presented and discussed in lectures and tutorials will be tested in exams.

### Course Policies related to Academic Integrity

- In case of group projects, each student is required to contribute to the group's work, and the group will be assigned one grade.
- Plagiarism software will be used to check for the originality of each student's written assignments.

### Course Content

Week	Day	Lecture
1	T – Jan 10	1 – Introduction
	Th – Jan 12	2 – Terrestrial mammals
2	T – Jan 17	3 – Ethics of resource use
	Th – Jan 19	4 – Whales & Whaling
3	T – Jan 24	5 – Other marine mammals
	Th – Jan 26	6 – Resource management
4	T – Jan 31	7 – Marine fish
	Th – Jan 2	8 – Diadromous & Freshwater fish
5	T – Feb 7	9 – Aquaculture
	Th – Feb 9	10 – Monitoring & Assessment
6	T – Feb 14	11 – Conservation & Recovery
	Th – Feb 16	No lecture – study time
--- STUDY BREAK ---		
7	T – Mar 1	12 – Reptiles & Amphibians
	Th – Mar 3	13 – Ecosystem consequences
8	T – Mar 8	14 – Invertebrates
	Th – Mar 10	15 – Economy, Social & Market forces
9	T – Mar 15	16 – Wild birds
	Th – Mar 17	17 – Land-use & Habitat management
10	T – Mar 22	18 – Wild plants
	Th – Mar 24	19 – Forestry
11	T – Mar 29	20 – Agriculture
	Th – Mar 31	21 – Pest control & Pollution
12	T – Apr 4	22 – Future of resource use
	Th – Apr 6	No lecture – Tutorial presentations

## (Section B)

### University Policies and Statements

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

#### **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](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](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](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](mailto:elders@dal.ca)).

**Information:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

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

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=117&chapterid=-1&topicgroupid=31821&loadusercredits=False>

#### **University Grading Practices**

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)

**(Section C)**  
**Student Resources and Support**

**Advising**

**General Advising** [https://www.dal.ca/campus\\_life/academic-support/advising.html](https://www.dal.ca/campus_life/academic-support/advising.html)

**Science Program Advisors:** <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

**Indigenous Student Centre:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

**Black Students Advising Centre:** [https://www.dal.ca/campus\\_life/communities/black-student-advising.html](https://www.dal.ca/campus_life/communities/black-student-advising.html)

**International Centre:** [https://www.dal.ca/campus\\_life/international-centre/current-students.html](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](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](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.html](https://www.dal.ca/campus_life/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](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>

**Dalhousie COVID-19 information and updates:** <https://www.dal.ca/covid-19-information-and-updates.html>