

**Faculty of Science Course Syllabus**  
**Department of Biology**  
*BIOL 3063.03 / MARI 3063.03*  
*Resource Ecology*  
*Winter 2016-2017*

**Instructor:** Heike Lotze (Heike.Lotze@dal.ca), LSC 7062

**Lectures:** Two hours per week: Monday-Wednesday, 1:35-2:25, Studley MCCAIN ARTS&SS 1198

**Tutorials:** Two hours per week: Mondays, 2:35-4:25, LSC C220

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### **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 Objectives/Learning Outcomes**

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
- Point out 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
- Generate a formal population/stock assessment using different population growth models and assessment methods
- Produce a stakeholder statement and defend it in a stakeholder debate

### Course Materials

There is no textbook, but lectures and tutorial materials will be available on Brightspace.

### Course Assessment

Component	Weight (% of final grade)	Date
<b>Midterm exam</b>	15%	Feb 15, 2017 (in class) 1:35-2:25
<b>Final exam</b>	35%	(Scheduled by Registrar)
<b>Assignments</b>		
- Stakeholder debate	5%	Jan 16, 2017 (in tutorial) 2:35-4:25
- Stock assessment	6%	Feb 6, 2017 (in tutorial) 2:35-4:25
- Food choice	10%	Mar 20, 2017 (in tutorial) 2:35-4:25
- Resource use assessment	4%	Apr 3, 2017 (in tutorial) 2:35-4:25
<b>Other course requirements</b>		
- Oral Scientific Briefing	12.5%	in tutorial, different dates for each student
- Written Scientific Briefing	12.5%	different dates for each student

### 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

All assignments have a strict deadline; late assignments will get a lower mark. Missed assignments and exams will count 0%. In case of illness, a doctor's note is needed and the exam/assignment can be repeated. The content of weather-related cancelled classes will be integrated into the following lectures in abbreviated form; only topics presented and discussed in class/tutorial will be tested in exams.

### Course Content

- 1 – Introduction
- 2 – Ethics of resource use
- 3 – Terrestrial mammals
- 4 – Resource management
- 5 – Whales & Whaling
- 6 – Conservation & Recovery
- 7 – Other marine mammals
- 8 – Monitoring & Assessment I
- 9 – Marine fish
- 10 – Stock assessment II
- 11 – Reptiles & Amphibians
- 12 – **MIDTERM**

- 13 – Diadromous & Freshwater fish
  - 14 – Aquaculture
  - 15 – Invertebrates
  - 16 – Ecosystem consequences
  - 17 – Wild birds
  - 18 – Economy, Social & Market forces
  - 19 – Wild plants
  - 20 – Land-use & Habitat management
  - 21 – Forestry
  - 22 – Agriculture
  - 23 – Pest control & Pollution
  - 24 – Future of resource use
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### **ACCOMMODATION POLICY FOR STUDENTS**

Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie's Student Accommodation Policy can be accessed here:

[http://www.dal.ca/dept/university\\_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html](http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html)

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Advising and Access Services Centre (AASC)** prior to or at the outset of the regular academic year. More information and the **Request for Accommodation** form are available at [www.dal.ca/access](http://www.dal.ca/access).

### **ACADEMIC INTEGRITY**

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (<http://academicintegrity.dal.ca>) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie's **Policy on Intellectual Honesty** and **Faculty Discipline Procedures** is available here:

[http://www.dal.ca/dept/university\\_secretariat/academic-integrity/academic-policies.html](http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html)

### **STUDENT CODE OF CONDUCT**

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

“The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect

- the integrity and proper functioning of the academic and non – academic programs and activities of the University or its faculties, schools or departments;
- the peaceful and safe enjoyment of University facilities by other members of the University and the public;
- the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University's premises;
- the property of the University or its members.”

The full text of the code can be found here:

[http://www.dal.ca/dept/university\\_secretariat/policies/student-life/code-of-student-conduct.html](http://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html)

### **COPYRIGHT**

All members of the Dalhousie community are expected to comply with their obligations under Canadian copyright law. Dalhousie copyright policies and guidelines, including our Fair Dealing Guidelines, are available at <http://www.dal.ca/dept/copyrightoffice.html>. Copyright questions should be directed to the Copyright Office at [copyright.office@dal.ca](mailto:copyright.office@dal.ca).

**SERVICES AVAILABLE TO STUDENTS**

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

<b>Service</b>	<b>Support Provided</b>	<b>Location</b>	<b>Contact</b>
<b>General Academic Advising</b>	Help with <ul style="list-style-type: none"> <li>- understanding degree requirements and academic regulations</li> <li>- choosing your major</li> <li>- achieving your educational or career goals</li> <li>- dealing with academic or other difficulties</li> </ul>	<b>Killam Library Ground floor</b> Rm G28  <b>Bissett Centre for Academic Success</b>	In person: Killam Library Rm G28  By appointment: <ul style="list-style-type: none"> <li>- e-mail: <a href="mailto:advising@dal.ca">advising@dal.ca</a></li> <li>- Phone: (902) 494-3077</li> <li>- Book online through MyDal</li> </ul>
<b>Dalhousie Libraries</b>	Help to find books and articles for assignments  Help with citing sources in the text of your paper and preparation of bibliography	<b>Killam Library Ground floor</b>  Librarian offices	In person: Service Point (Ground floor)  By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time: <a href="http://dal.beta.libguides.com/sb.php?subject_id=34328">http://dal.beta.libguides.com/sb.php?subject_id=34328</a>
<b>Studying for Success (SFS)</b>	Help to develop essential study skills through small group workshops or one-on-one coaching sessions  Match to a tutor for help in course-specific content (for a reasonable fee)	<b>Killam Library 3<sup>rd</sup> floor</b>  Coordinator Rm 3104  Study Coaches Rm 3103	To make an appointment: <ul style="list-style-type: none"> <li>- Visit main office (Killam Library main floor, Rm G28)</li> <li>- Call (902) 494-3077</li> <li>- email Coordinator at: <a href="mailto:sfs@dal.ca">sfs@dal.ca</a> or</li> <li>- Simply drop in to see us during posted office hours</li> </ul> <b>All information can be found on our website: <a href="http://www.dal.ca/sfs">www.dal.ca/sfs</a></b>
<b>Writing Centre</b>	Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) <ul style="list-style-type: none"> <li>- Learn to integrate source material into your own work appropriately</li> <li>- Learn about disciplinary writing from a peer or staff member in your field</li> </ul>	<b>Killam Library Ground floor</b> Learning Commons & Rm G25	To make an appointment: <ul style="list-style-type: none"> <li>- Visit the Centre (Rm G25) and book an appointment</li> <li>- Call (902) 494-1963</li> <li>- email <a href="mailto:writingcentre@dal.ca">writingcentre@dal.ca</a></li> <li>- Book online through MyDal</li> </ul> We are open six days a week  <b>See our website: <a href="http://writingcentre.dal.ca">writingcentre.dal.ca</a></b>