

Faculty of Management Course Syllabus  
ENVI5504/MGMT4504  
Management of Natural Resources and the Environment  
Fall 2022

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## Course Overview

### Description

Students explore key management concepts applied in managing natural resources and the environment. Topics include management paradigms, systems, principles, approaches, tools and institutions associated with a wide range of sectors such as fisheries, forests, agriculture, the coastal zone, oceans, parks and protected areas, energy, waste, water, and others. Case studies complement lectures, seminars and field trips.

### Course Prerequisites

Enrollment in a Master's program. Upper-year undergraduate students may request admission from the instructor.

### Instructor

Dr. Alana Westwood (pronouns: she/her). Find instructor profile [online](#).

*Office hours:* Held on Thursdays from 10:30-14:00 ADT. Virtual or in-person. Make an appointment to guarantee your slot:

<http://calendly.com/alanawestwood/officehours/>

*Contact:*

- Microsoft Teams instant message. Response time <3 hours on working days (~9:00-17:30 M-F).
- Discussion forum on Brightspace: Response time <24 hour working hours
- Email ([a.westwood@dal.ca](mailto:a.westwood@dal.ca)): Response time 1-3 business days



### TA

Justine Ammendolia (pronouns: she/her). Find TA profile [online](#).

*Office hours:* Held by appointment, contact by email.

*Contact:*

- Email ([justineammendolia@dal.ca](mailto:justineammendolia@dal.ca)): Response time <4 hours on working days (~7:00-16:00 M-F)



### Course Delivery

Class location: Wednesdays, Rowe Management Building Room 1014, 11:35-14:25 ADT.

Tutorial location: Wednesdays, Life Sciences Centre Common Area C208, 14:35-17:25 OR field trips in downtown Halifax (see Course Schedule)

The course will be delivered from September 6 through December 7, 2022. Course delivery is through a mix of in-person lectures, in-person tutorials, field trips, guest lectures, and supplemental online material which include, videos, readings, podcasts, discussions, and other materials.

Tutorial and field trip attendance is mandatory with grades being associated with some assignments completed during tutorials. In-class will be composed of question and answer sessions with guest speakers, facilitated discussion on required reading material, and opportunities to review assignments and course expectations with the instructor. Group work is required for one assignment. Students may coordinate group work as they wish, but a messaging channel and document storage space/virtual meeting room can be provided for each group in Microsoft Teams.

### **Course Objectives/Learning Outcomes**

Upon completing this course, the student will be able to:

- Understand the domains of environmental and natural resource management applies and the variety of approaches taken to tackle different management challenges;
- Learn management needs and desires of different user groups;
- Enhance literacy, numeracy, and critical thinking skills as they apply to management;
- Contribute to a team that leverages management skills and competencies through various stages of a project (research design, data collection and analysis, deriving findings and recommendations, collaborative editing and writing) towards a partner-driven project;
- Learn and apply project management and process tools (i.e., team charter, Gantt chart, peer evaluation) to facilitate and support the management of a project team
- Communicate final results in a format appropriate for a lay audience.

### **Course Materials**

#### **Required Resources**

Students must have access to the university library as well as a computer or a functional tablet for word processing, and consistent access to the internet. Learn more about digital tools available to students [at this link](#). If you require support for the course or university technologies you can contact Information Technology Services (ITS) at 1-800-869-3931 or [support@dal.ca](mailto:support@dal.ca)



Brightspace is our classroom space! This All required reading (inclusive of text, video, and audio materials) will be provided through Brightspace. This is where you'll find the class announcements, weekly modules, course readings, dropbox for submitting assignments, and discussion boards for questions. Readings may be provided as little as one week prior to the next scheduled synchronous discussion so as to address current affairs.



Teams is our conferencing platform. Should Covid-19 or extenuating circumstances require us to switch to an online format, all students will be added to a Teams page for online classes. Groups may be designated a private channel they can use to organize and conduct meetings.

#### **Optional Resources**

Students may find the following textbook useful. It is not necessary to purchase a copy as Dalhousie has a free e-book available for students (available through [libraries.dal.ca](http://libraries.dal.ca)).

Chapin III, F. S., Kofinas, G. P., & Folke, C. (Eds.). (2009). Principles of ecosystem stewardship: resilience-based natural resource management in a changing world. Springer, New York, USA.

## Course Schedule

The course is structured in 12 modules which occur on a weekly basis. The schedule could be subject to further change, particularly the scheduling of guest speakers. You will be informed ASAP if there are any changes to the schedule via Brightspace announcements.

Session	Lecture	Tutorial	Tasks for the week
<b>Block 1</b> <b>Sep 7</b> <b>Management &amp; Land</b>	<ul style="list-style-type: none"> <li>Lecture: Course expectations</li> <li>Lecture: What is management?</li> <li>Lecture &amp; activity: Who “owns” land?</li> <li>Assignment: Intro to Assignment 1</li> </ul>	<b>NO TUTORIAL</b>	<ul style="list-style-type: none"> <li>Read syllabus</li> <li>Read Assignment 1 instruction sheet</li> </ul>
<b>Block 2</b> <b>Sep 14</b> <b>Water</b>	<ul style="list-style-type: none"> <li>Lecture: Who “owns” the sea? (TA)</li> <li>Discussion: What does it mean to “manage” nature? (TA)</li> <li>Assignment: Introducing Assignment 2 (TA)</li> </ul>	<ul style="list-style-type: none"> <li>Activity: Using Dal Libraries (Gwen McNairn, Dalhousie University)</li> <li>Lecture &amp; activity: Hacks to make your life easier (MS products, reference managers)</li> <li><b>Tutorial Hand-in: Gantt chart &amp; fill in surveys for groups</b></li> </ul>	<ul style="list-style-type: none"> <li>Last day to drop fall term courses with complete refund (<b>Sep 16</b>)</li> <li>Read Assignment 2 instruction sheet</li> <li>Readings: TBD</li> </ul>
<b>Block 3</b> <b>Sep 21</b> <b>Management plans</b>	<ul style="list-style-type: none"> <li>Introducing Assignments 2 and 3</li> <li>Landowner introductions</li> <li>Lecture: What is a management plan?</li> </ul>	<ul style="list-style-type: none"> <li>Lecture &amp; activity: Field safety and setting field trip goals</li> <li>Activity: Setting group norms</li> <li><b>Tutorial Hand-in: Group charter</b></li> </ul>	<ul style="list-style-type: none"> <li>Read Assignment 3 instruction sheet</li> <li>Reading: Guidelines for managing Canada Warbler habitat</li> </ul>
<b>Block 4</b> <b>Sep 28</b> <b>Land visit</b>	<b>FULL DAY FIELD TRIP</b>		<ul style="list-style-type: none"> <li>Reading: Land parcel background</li> <li>Last day to drop fall term courses without a “W” (<b>Oct 3</b>)</li> </ul>
<b>Block 5</b> <b>Oct 5</b> <b>Terrestrial ecosystems</b>	<ul style="list-style-type: none"> <li>Lecture: Ecological Land Classification, Forest Ecosystem Classification, and forest management</li> <li>Lecture &amp; discussion: NS SGEM</li> </ul>	<ul style="list-style-type: none"> <li>Field trip: Point Pleasant Park forest walk (<b>15:30 meet at Young Ave</b>)</li> <li>Activity: Forest Ecosystem Classification</li> </ul>	<ul style="list-style-type: none"> <li>Reading: Assigned portions of the NS Silvicultural Guide for the Ecological Matrix (SGEM)</li> </ul>
<b>Block 6</b> <b>Oct 12</b> <b>Fisheries</b>	<ul style="list-style-type: none"> <li>Guest lecture &amp; activity: Managing global fisheries (Dr. Kristina Boerder, Dalhousie University)</li> <li>Lecture &amp; discussion: Marine protected areas plan</li> </ul>	<ul style="list-style-type: none"> <li>Activity: Planning for success</li> <li>Activity: Groupwork time</li> <li><b>Tutorial hand-in: Reflection on Gantt chart</b></li> </ul>	<ul style="list-style-type: none"> <li>Reading: TBD</li> <li><b>Complete Assignment 3a (due Oct 14)</b></li> </ul>
<b>Block 7</b> <b>Oct 19</b> <b>Waste</b>	<ul style="list-style-type: none"> <li>Lecture: Pollution and waste (TA)</li> <li>Lecture &amp; discussion: Plastic pollution management approaches</li> </ul>	<ul style="list-style-type: none"> <li>Field trip: Urban waste (TA)</li> <li><b>Tutorial hand-in: Urban waste data logging</b></li> </ul>	<ul style="list-style-type: none"> <li>Reading: TBD</li> </ul>

<b>Block 8</b> <b>Oct 26</b> <b>Urban</b> <b>Growth</b>	<ul style="list-style-type: none"> <li>Lecture: Urban environmental management in Halifax (Waye Mason, City of Halifax)</li> <li>Lecture: Urban management overview</li> <li>Activity: Exploring Halifax's Green Network Plan and Urban Forest Master Plan</li> </ul>	<ul style="list-style-type: none"> <li>Field trip: Walking experience of the Halifax Urban Forest Master Plan (Dr. Peter Duinker, Dalhousie) <b>Meet 15:00 in the North Common at the corner of Bell Road and Trollope St (across from Citadel High)</b></li> </ul>	<ul style="list-style-type: none"> <li>Reading: Assigned portions of Halifax Green Network Plan and Urban Forest Master Plan</li> <li>Last day to drop fall term classes with a "W" (<b>Nov 1</b>)</li> <li>Complete mid-term course review (not for marks)</li> </ul>
<b>Block 9</b> <b>Nov 2</b> <b>Protected areas</b>	<ul style="list-style-type: none"> <li>Guest panel: Place-based conservation (Jaimee Dupont, Nature Conservancy of Canada and Samantha Ceci, Eskasoni Fish &amp; Wildlife Commission)</li> </ul>	<ul style="list-style-type: none"> <li>Lecture &amp; Activity: Leadership in management (Dr. Anika Cloutier, Dalhousie)</li> <li><b>Tutorial hand-in: Leadership reflection</b></li> </ul>	<ul style="list-style-type: none"> <li>Reading: Unama'ki Institute of Natural Resources Tan Telotik Indigenous Protected and Conserved Area plan</li> <li><b>Complete Assignment 2 (due Nov 4)</b></li> </ul>
<b>Fall study break Nov 7-11, no class</b>			
<b>Block 10</b> <b>Nov 16</b> <b>Hazards</b>	<ul style="list-style-type: none"> <li>Lecture: Hazard management (<b>guest lecture TBD</b>)</li> <li>Lecture &amp; discussion: Hazard management planning</li> <li>Activity : Finding hazard data</li> </ul>	<ul style="list-style-type: none"> <li>Tutorial assignment: Urban waste management plan (TA)</li> <li><b>Tutorial hand-in: Small-scale management plan</b></li> <li>Activity: Groupwork time</li> </ul>	<ul style="list-style-type: none"> <li>Reading: TBD</li> </ul>
<b>Block 11</b> <b>Nov 23</b> <b>Land visit</b>	<b>FULL DAY FIELD TRIP</b>		<ul style="list-style-type: none"> <li>Reading: TBD</li> </ul>
<b>Block 12</b> <b>Nov 30</b> <b>Reflections</b>	<ul style="list-style-type: none"> <li>Lecture: Integrated natural resource management</li> <li>Lecture &amp; activity: Career options and setting yourself up for success</li> <li>Activity: Complete course review</li> </ul>	<ul style="list-style-type: none"> <li>Management plan presentations + potluck!</li> </ul>	<ul style="list-style-type: none"> <li>Reading: TBD</li> <li><b>Complete Assignment 3b (due Nov 30)</b></li> <li><b>Complete Assignment 3c (due Dec 9)</b></li> </ul>

## Course Assessment

Assignment	Grade Proportion – Grad Students	Grade Proportion – Undergrad Students	Due date
<b>1. Tutorial assignments (choose any 5 of the following)</b>	(20)	(25)	
Block 2 – Gantt chart	4	5	Sep 14
Block 3 – Group charter	4	5	Sep 21
Block 6 – Reflection on Gantt chart	4	5	Oct 12
Block 7 – Urban waste data collection	4	5	Oct 19
Block 9 – Leadership reflection	4	5	Nov 2
Block 10 – Small-scale management plan	4	5	Nov 16
<b>2. Management plan analysis</b>	25	35	Nov 4
<b>3. Private land natural resource management plan</b>	(55)	(40)	
• 3a: Table of contents	5	5	Oct 14
• 3b: Presentation	10	10	Nov 30
• 3c: Final report + autorating form	40	25	Dec 9
	multiplier	multiplier	

*\*Due dates for Assignment 2 may shift based on timelines for submission set by the regulator. Any shifts will be discussed with the class well in advance.*

All assignments are due at 10:00 PM Atlantic Daylight Time unless stated otherwise on assignment instructions. Assignments are **accompanied by a detailed instruction sheet**, verbal instructions, and a marking rubric on Brightspace. Short summaries of the assignments are as follows:

### Assignment 1. Tutorial hand-ins

In six of the twelve tutorials, in-class assignments will be given as individual assignments. You must complete **five** of the six assignments to achieve full marks. The assignment must be completed during the three-hour tutorial period and handed in either physically (on paper) or digitally (through Brightspace). These assignments generally involve developing a project management plan (e.g. Gantt chart), reflecting on competencies related to management, or collecting data that can be used to inform a management plan. If you complete >5, the lowest mark will be dropped. **If you are unable to attend more than one session with a hand-in assignment**, please contact the instructor as far in advance as possible to arrange and alternate assessment.

### Assignment 2. Management plan follow-up and reflection

In this individual assignment, each student will select a pre-existing management plan relating to the environment or natural resources. You will briefly summarize the management plan, use a pre-

set template to critically evaluate this plan, and then write a reflection which draws upon popular media articles and gray and scientific literature to determine whether or not the plan was successfully implemented. Finally, you will comment on what you thought contributed to the success or failure of the plan.

### **Assignment 3. Private land natural resource management plan**

Given that most of Nova Scotia's landmass is owned by private landowners, sustainable management of natural resources and the environment for this province requires that landowners be actively engaged in tackling environmental management questions on their lands. This assignment will be completed in groups of 5-7 students. You will be assigned to groups based on the completion of an in-class survey regarding your interests, skills, and experience level. Each group will be assigned a landowner partner. The landowners will provide a set of values for which they seek to manage their lands (e.g. herbal garden, recreational trails, siting a home to avoid coastal erosion, timber woodlot, etc.) and the instructor will provide an additional set of values to be included (e.g. identifying sensitive wetlands, noting likely areas of species at risk, connectivity to protected areas networks, flood risk mapping). Each student will focus on one value of their choice but all members of the group will contribute to the overarching management plan.

The assignment will be completed in three parts: a) annotated table of contents, b) presentation, and c) final management plan. The table of contents will indicate the structure of the management plan, who is assigned to complete which pieces, and the research methods they expect to use to develop their recommendations. This is due near the mid-point of the course to give students opportunity to select their values, develop group norms, and discuss with their partner. The presentation will occur during the final tutorial and will be 'pecha kucha' style with each student having no more than five minutes and a limited number of slides to present on their assigned value.

The final management plan will be 7,500-10,000 words (exclusive of appendices) depending on group size. The management plan will provide an overview and description of the lands and then for each value, detail the resource and environmental setting, present and analyse applicable data, and make recommendations for sustainable management. A peer and self-evaluation component will be included to ensure fairness during grading, and student's marks will be adjusted accordingly. Students will be given sessions during the course to conduct groupwork as well as discuss their progress and challenges with the instructor. Two site visits will be arranged during class time (full day field trips) for students to view partner lands. Students will be expected to coordinate with their landowner partner to set expectations, to stay in regular contact, and to provide their partner with the final management plan.

### **Grading**

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale. Note that for students in a **graduate program, a minimum grade of B- is required** to pass the course. This means that a final term grade of under 70% will be assigned an F for all graduate students. Receiving a final grade of F in a graduate program means different things in different programs. In the MREM, a single F results in automatic dismissal from the program with the right to appeal to re-enter the program. The Dalhousie Common Grade Scale is as follows:

**A+** (90-100)   **B+** (77-79)   **C+** (65-69)   **D**   (50-54)



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<b>A</b> (85-89)	<b>B</b> (73-76)	<b>C</b> (60-64)	<b>F</b> (<50)
<b>A-</b> (80-84)	<b>B-</b> (70-72)	<b>C-</b> (55-59)	



## Course Policies

- 1. Attendance and participation is your responsibility.** You are expected to attend all lectures and review all course content, including doing required readings in advance.
- 2. Collegiality.** You are expected to treat all classmates and your instructor with collegiality and to treat each person as an equal, independent of any factors relating to their identity.
- 3. Brightspace.** Keeping up to date with the announcements, learning materials, and discussions posted on Brightspace, as well as submitting your assignments through the Brightspace dropbox, is your responsibility.
- 4. Late assignments.** A deduction of 10% will be taken off for each day an assignment is late and will not be accepted more than five days after the due date. Arrangements to hand in assignments late due to extenuating circumstances must be made with the instructor at least 48 hours before the assignment is due. All assignments are due at 10:00 PM ADT unless otherwise stated on the assignment instructions. To improve time management skills, visit [Studying for Success](#) for a self-assessment, free workshops, and personal coaching.
- 5. Your wellness and inclusion is priority.** This course has been designed to the best of the instructor's ability with [principles of universal design](#), which supports accessible education as a default. Access should be proactive and inclusive, with the course designed for all. If the course materials do not meet your access needs, in addition to contacting [Accessibility Services](#), please contact the instructor to discuss alternate arrangements or redesigning course elements. Any conversations with the instructor about accessibility are confidential and are strictly for facilitating learning needs or accommodations.

## University policies and services

### Accommodation policy for students

Though this course has been designed with universal principles, students still may face barriers to success 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 at this link](#). Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Student Accessibility Centre** prior to or at the outset of the regular academic year. Find more information and the **Request for Accommodation** form [online](#).

### Student health and wellness

Your health and wellness is a priority. Students in Halifax should be aware of the in-person [Student Health and Wellness Centre](#) where you can see doctors, nurses, psychiatrists, counsellors, and other health professionals. Counselling is provided free of charge to Dalhousie students.

Completing a full courseload involves a great deal of screen time on computers and other devices, which may be stressful for some students' physical and mental well-being. Free text-to-speech/speech-to-text software, Read and Write Gold, is available through Dalhousie's [software library](#). Students may wish to consider using this or similar software to convert long readings to audio or to write first drafts of papers by dictation.

The Student Accessibility Centre also has a [Lending Library](#) which includes technology resources that may ease eyestrain, improve audio quality, improve seated ergonomics, or make it possible to



work effectively in unavoidably noisy study spaces. Examples include tablets, noise-cancelling headphones, a portable text-to-speech pen, recording devices, and more.

### **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. Any paper submitted by a student at Dalhousie University may be checked for originality to confirm that the student has not plagiarized from other sources. Plagiarism is considered a very serious academic offence that may lead to loss of credit, suspension or expulsion from the University, or even the revocation of a degree. See the [full text](#) of Dalhousie's **Policy on Intellectual Honesty and Faculty Discipline Procedures**. You should be familiar with the [Faculty of Management Professor and Student Contract on Academic Integrity](#), and it is your responsibility to ask questions if there is anything you do not understand.

Dalhousie offers many ways to learn about academic writing and presentations so that all members of the University community may acknowledge the intellectual property of others. Knowing how to find, evaluate, select, synthesize and cite information for use in assignments is called being “information literate.” Information literacy is taught by Dalhousie University Librarians in classes and through online tutorials.

Do not plagiarize any materials for or from this course. For guidance on what constitutes plagiarism, how to avoid it, and proper methods for attributing sources, see [these resources](#). If you suspect cheating by colleagues or lapses in standards by a professor, use the confidential email: [managementintegrity@dal.ca](mailto:managementintegrity@dal.ca) which is read only by the Assistant Academic Integrity Officer.

### **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.”

**Other services available to students**

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits, as well as to connect with other students to support both coursework and campus life. The services are available to all Dalhousie students and, unless noted otherwise, are **free**.

[Academic advising](#) – Support for understanding degree requirements and academic regulations. Academic advising can support you through academic or other difficulties and ensure you meet your educational or career goals.

[Black student advising centre](#) – Provides support for Black students including scholarship and bursary information as well as a directory of Black student societies and groups and related events. Also provides a physical space for Black students to study and network.

[Dalhousie's libraries](#) – Beyond simply being a place to do online or in-person research, librarians advice on search methods, support you with finding materials to complete assignments, and help you reference your work correctly. You can also book a computer, study room, or space for group work in the library.

[Dalhousie Student Union societies](#) – Peer support and team-building is an essential part of the university experience. With over 250 active societies, students can meet others with mutual interests or identities. Student societies can be of particular importance for those who may face identity-related barriers to the university experience.

[Indigenous student centre](#) – Provides support for Indigenous students including regular smudging, scholarship and bursary information, and orientations and other events. Also provides a physical space for Indigenous students to study and network. The [Elders in Residence](#) program provides students with access to First Nations Elders for guidance, counsel and support. Visit the office in the Indigenous Student Centre, 1321 Edward Street, or email [elders@dal.ca](mailto:elders@dal.ca).

[International student centre](#) – Provides support for international students including one-on-one mentorship and guidance for university life Canada. Also provides information for domestic students wishing to study abroad.

[South House](#) – A full-time gender justice centre which provides support to those of marginalized sexual and/or gender identities, including LGBTQ2S+ identities and beyond. Offers space for relaxation or studying, a community computer, and a vast library. Regularly offers workshops and educational events relating to gender justice and sexual and gender diversity.

[Writing Centre](#) – Provides free coaching/tutoring to support any assignment with a written component, ranging from a graduate thesis to a poster to an annotated bibliography and anything in-between. Students will be paired with a tutor from the same discipline who can assist with discipline-specific writing conventions and referencing. The Writing Centre also provides free workshops and comprehensive resource guides.