



Welcome to ENVS 1100

Foundations of Environmental Science: Ecosphere, Resources, and Sustainability

Fall 2026

Dalhousie University operates in the unceded territories of the Mi'kmaw, Wolastoqey, and Peskotomuhkati Peoples. These sovereign nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights in Canada.

We recognize that African Nova Scotians are a distinct people whose histories, legacies, and contributions have enriched that part of Mi'kma'ki known as Nova Scotia for over 400 years.

ENVS 1100 Teaching Team

Dr. Sue Gass | Pronouns: she/her | Email: sue.gass@dal.ca – Lecture Coordinator

Dr. Caroline Franklin | Pronouns: she/her | Email: caroline.franklin@dal.ca – Tutorial Coordinator

We are looking forward to this course immensely. We will explore a range of topics that will help you develop a better understanding of Earth systems and how humans are interacting and affecting these systems. Our ENVS 1100 teaching team will guide you through the content with lectures and tutorials. You will encounter a multi-faceted approach to teaching in this course. We will do our best to introduce a range of learning techniques in the lectures and tutorials in hopes of engaging every one of you with the course material.

We have three teaching assistants joining this course. Each TA is responsible for leading two weekly tutorials. Take a minute to introduce yourself to your TA at your first tutorial session.

Teaching Assistants:	Email	Tutorials
TBD		

Course delivery

This course will be held in person. Lectures slides will be provided before each lecture.

Lectures: Wednesdays and Fridays 1:05-2:25 pm – LSC Common Area Room 242

Tutorials: Each student has signed up for an in person weekly 110 min tutorial which will run throughout the term. See the course schedule for details.

Student Support Office Hours

Fridays 2:30 – 4:30 pm LSC B3082



Office hours are Fridays from 11-12:30 pm. All office hours are held in Dr. Sue Gass' office LSC Biology Wing room 3082. If you are not able to make those times, you can email Dr. Gass to set up a meeting at another time. This time is an opportunity for you to introduce yourselves, a chance to ask clarifying questions about content, or explore what you want to do after you graduate. If a few students come together, we can also work through practice questions. These times are set aside for this purpose so please do not hesitate to take advantage and come by.

Course Description

The environment is a dynamic web of interactions between all components of the lithosphere, the hydrosphere, the biosphere, and the atmosphere. Humans are one component of the biosphere, and we are unique in that we have the capacity to make individual and community decisions that can have a tremendous impact on many other components of the environment. How can we predict the effects of our actions? How can we mitigate our impacts? We must understand the components of the environment and the interactions between them to answer these questions. Foundations of Environmental Science introduces students to environmental science, explores Earth systems, the environmental problems and the ethics that impinge on our individual and community decisions about the environment. Specifically, the course will cover the how scientists conduct scientific investigations, information literacy, environmental ecology, human population growth, biogeochemical cycles, forests and forest management, conservation biology, agriculture and the environment, and ocean and freshwater systems.

There are no pre-requisites for this course.

Learning objectives

We will work on developing critical thinking and problem-solving skills by working through case studies, discussing videos, and exploring the topics introduced in the textbook.



What is Environmental Science and why is it important?

- Define Environmental Science
- Describe different ways to investigate environmental issues
- Identify logical fallacies while working through an environmental problem
- Identify and breakdown wicked problems
- Describe critical thinking and how it can counter logical fallacies used in arguments



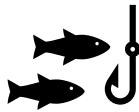
How do ecosystems function, and what are the principles of ecology?

- Explain the principles of community and population ecology,
- Describe energy flow through ecosystems and nutrient cycles.
- Describe Earth's biomes
- Describe coral reef ecosystems



Why is biodiversity important, and how can we conserve it?

- Describe why biodiversity is important to Earth's functioning and the factors that contribute to its loss.
- Explore strategies for biodiversity conservation and ecosystem restoration.
- Describe the principles of the theory of evolution by natural selection.
- Compare and contrast the time frames between the theory of evolution by natural selection and the current rate of the loss of global biodiversity.



How do human activities impact the environment?

- Discuss the concept of the Anthropocene and its implications for the environment.
- Describe the causes and consequences of ocean acidification
- Explain the development of modern agriculture, identify the resulting environmental problems,
- Describe key issues around freshwater resources and pollution



How can we manage natural resources sustainable? Can we feed the world's growing population sustainably?

- Evaluate sustainable practices for managing natural resources, including water, soil, forests, and fisheries.
- Identify examples of adaptive management and the precautionary principle
- Describe the principles of sustainable agriculture
- Discuss challenges associated with sustainable fisheries management and aquaculture

Course Materials - Required

S. Karr et al. 2021 Environmental Science for a Changing World. Digital Update Edition + Achieve

You can purchase this book either at the bookstore in loose leaf format or as an e-book with Achieve. All new loose-leaf copies purchased at the bookstore come with access to the e-book as well.

We will also be using Poll Everywhere in class. This is a free software for students. Please feel free to download this software on your mobile device before coming to class for ease of use during our first day of class. There are no grades associated with the use of Poll Everywhere.

Online Learning Platform

Brightspace – On-line Integrated Learning Platform

All course materials can be found on our Brightspace. The course syllabus, lecture slides, announcements, assignments, quizzes, readings, access to the textbook, and other pertinent information are accessible through our course Brightspace site. You should be checking this site regularly.

Student Use of Course Materials

Course materials are designed for use in a specific course and are the property of the instructor unless otherwise stated. Third-party copyrighted materials (e.g., books, journal articles, music, videos) have either been licensed for use or fall under an exception or limitation in Canadian Copyright law. Copying course materials for distribution, such as uploading to a third-party website, may lead to a violation of Canadian Copyright law.

Technology support

Direct links to Dalhousie Information Technology Services support, and Macmillan textbook support are listed on Brightspace under the **Technical Support** module.

Course Assessment

Overview

Assessment	Date	% of final grade
Tutorial Assignments Best 6 of 7	See class schedule	25%
Species at Risk presentation	See class schedule	5%
Mid-term Exam	October 21 st in class	25%
Final Exam cumulative	Exam period	45%
Total		100%

Assignments

There are seven tutorial assignments which will be completed during tutorial sessions. You must attend your tutorial to be eligible to submit an assignment. We will drop the lowest score from your seven assignments, so each assignment is worth 4.2% of your final grade. Tutorial assignments are due at the end of your scheduled tutorial session except for Assignment 1 (due September 28). Please see the schedule for more details.

The final assignment is the Species at Risk oral presentation. This will take place during the final tutorial session and is worth 5% of your final grade. Please note this presentation grade cannot be dropped from your final grade (i.e., it is not one of the seven tutorial assignments).

Mid-term Exam

There will be one mid-term exam on **October 21st during class time** worth 25% of your grade. It will cover the course material up until that time.

Final Exam

There will be a final exam held during the final exam period (**Dec. 11-20th**). The exam dates will be announced by the Registrar's Office in early October. The exam will consist of questions based on material from the **whole term** and is worth 45% of your grade.

Policy on late assignments, extensions, and make-up tests

Missed tutorials

You must attend your registered tutorial section to be eligible to submit the assignment for that tutorial. If you are going to miss a tutorial, please email the Tutorial Coordinator (Caroline.Franklin@dal.ca) as soon as possible and by no later than 24 hours before your scheduled tutorial. You may be able to attend a different tutorial session during the week of your missed session or receive instructions for a make-up assignment. If you do not notify the Tutorial Coordinator before missing your scheduled tutorial, you will not be eligible for a make-up assignment. Please note that only six of the seven tutorial assignments (excluding the Species at Risk presentation) will count towards your final grade.

Late tutorial assignments

Tutorial assignments are due at the end of your registered tutorial session except for Assignment 1 (due September 28). Late assignments will be deducted 10%/day, up to a maximum of five days (including weekends), after which a grade of zero will be assigned. Please note that you must attend the tutorial even if you are submitting the associated assignment late.

Exams

If you are ill for the mid-term, you should contact the instructor by email and submit an SDA form before the start of the midterm. A make-up midterm exam will be scheduled seven days following the originally scheduled exam.

Note that, except for documented sudden unforeseen circumstances, no make-up exam or rewrite will be offered for the final exam. It is your responsibility to write the exam when it is scheduled. Students who miss the final exam due to unforeseen circumstances must inform the instructor prior to the start of the exam and will be offered a make-up exam at a later date. The Student Declaration of Absence form does not apply to final exams.

Course Policies related to Academic Integrity

Students will often be asked to work together during the tutorial sessions, but unless specifically stated in the assignment instructions, the final work that is submitted must be completed individually. Your tutorial assignments will be based on work that YOU completed during the tutorial sessions and answers to the questions may vary for every student depending on the outcome of their tutorial exercise. The use of AI generative tools will not be helpful to these assignments because of the individual and specific nature of each assignment. You should note that the material generated by these AI programs may be inaccurate, incomplete, or otherwise problematic. Further, you should be aware that use may also stifle your own independent thinking and creativity and comes with a significant energy and water footprint.

The use of generative AI is prohibited for tutorial assignments, and you may not submit any work generated by an AI program. You may use AI-driven tools to assist your learning outside of the classroom, but you may not use them to produce work to be submitted for evaluations. Due to the nature of this course, it would be impracticable and more difficult to assess students properly if AI tools were allowed. In this course, using AI-driven tools when producing submitted work constitutes an academic offence. You are responsible for ensuring the work submitted including your group work was not created using AI. Any plagiarism or other form of cheating will be dealt with severely under relevant Dalhousie University policies.

Accessibility: Refer to the [Student Accommodation Policy](#) for information on how Dalhousie instructors and staff work collaboratively with students to create and sustain an accessible educational environment.

- If there are aspects of this course, including but not limited to its design, teaching approaches, learning activities, and assessments, that result in barriers to your learning or do not align with your formal academic accommodations, reach out to me to collaboratively find a solution that meets your needs.
- You are eligible for accommodations based on [protected characteristics](#) such as religion. If you have [religious, cultural, or community-significant observances](#) that conflict with course requirements, reach out to me to collaboratively find alternatives for completing the course requirements.
- To begin the process of requesting a formal academic accommodation, contact the [Student Accessibility Centre](#) (or the [Student Success Centre](#) for Faculty of Agriculture courses).
- Your classroom may contain accessible furniture and equipment. It is important that these items remain in the classroom, undisturbed and unused, so that classmates who require their use will be able to fully participate in the course.

Academic Integrity: Dalhousie expects all students to be responsible learners, [demonstrating the values](#) of intellectual honesty, trust, fairness, and respect in your work. Key aspects of academic integrity include, but are not limited to: avoiding plagiarism, not engaging in cheating, submitting original work, and acknowledging sources of information and ideas when they are not your own. Refer to the [Statement on Intellectual Honesty](#) for definitions of various academic offences. Failure to meet Dalhousie's academic integrity standards will result in appropriate [disciplinary and/or corrective measures](#).

University-wide policies can be found here: [Student Supports and University Statements](#)

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)	