

Environmental Problem Solving II: The Campus as a Living Laboratory Syllabus

Department of Earth and Environmental Sciences
ENVS/SUST 3502 Winter 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 the part of Mi'kma'ki known as Nova Scotia for over 400 years.

Course Instructor

Name	Email	Student Hours
Dr. Caroline Franklin (she/her)	Caroline.Franklin@dal.ca	By appointment at LSC B3084 (please email to schedule)

Course Description

In this course the campus serves as a living laboratory for identifying, evaluating and assessing indicators of progress toward greater campus sustainability. Working in groups, students apply problem-solving models to case studies using qualitative and quantitative research methods and make recommendations for improvements on campus based on their analyses.

Course Prerequisites

ENVS 1100.06 or ENVS 1200.03 (with a grade of B- or higher) or SUST 1000.06 or SUST 1001.06 (with a grade of B- or higher). Must be a 3rd year student OR have permission of instructor.

Course Exclusions

MGMT/SUST 3701

Course Structure

Course Delivery

In person

Lectures

Tuesdays and Thursdays at 16:05 - 17:25 in Kenneth C Rowe Management Building 1020

Course Materials

There is no textbook for the course and required readings will be posted on Brightspace. Students are expected to check the Brightspace course page regularly for readings, announcements, resources, and other information.

Assessment

Assessment	Weight (% of final grade)	Due date
Individual		
Personal profile	Required	January 9
Exercise 1	7%	January 16
Exercise 2	7%	January 23
Exercise 3	7%	February 2
Exercise 4	7%	February 22
Peer and self-assessment	2%	April 10
Infographic	10%	April 11
Group		
Research proposal	10%	February 13
Pecha Kucha group presentation	10%	April 2 and 7
Draft research report	5%	March 21
Final research report	25%	April 9
In-class group worksheets	10%	Throughout term

Assessment Details

Individual Assignments

Personal profile

- To help place you in diverse groups.

Exercises

- Introduced in class throughout the semester and designed to give you practice with various components of the research process. While some exercises are based on group discussions and interests, this work is completed individually.

Peer Assessment

- You will be asked to complete a confidential peer and self-evaluation relating to your group's performance. The peer assessment is used in conjunction with evaluations from the instructional team. If warranted, marks may be adjusted for group components of the project.

Infographic

- This assignment enables you to independently communicate your research findings creatively.

Group Assignments

In-class group worksheets

- Your group will be expected to complete and submit forms regularly throughout the term. If a student is absent from a class, they will not receive credit for the form unless they make arrangements with the instructor prior to the missed class.

Research proposal

- Your group's research proposal must be approved before you start data collection.

Pecha Kucha group presentation and peer feedback

- Your group will be responsible for presenting your research to the class in the Pecha Kucha format. Pecha Kucha Night was devised in Tokyo in 2003 as an event for young people to show their work in public. It has turned into a massive celebration, with events happening in hundreds of cities around the world. Drawing its name from the Japanese term for the sound of "chit chat", it rests on a presentation format that is based on a simple idea: 20 images x 20 seconds. It is a format that makes presentations concise and keeps things moving at a rapid pace. Group presentations are expected to be of professional quality, incorporating visual aids and providing a polished presentation of information within the time frame provided. You will be completing peer feedback forms for your fellow classmates and submitting them as part of this grade.

Final research report

- A final project report will be submitted after the presentations via Brightspace. All group members are expected to contribute to the paper and be available for group meetings.

Other course requirements

- Attend and engage in all course components
- Respect alternative viewpoints that might not coincide with your own
- Complete and reflect on all weekly readings
- Engage respectfully and responsibly in team building and collaborative research
- Remain curious about and critical of the material covered

Attendance is an expectation of this course and your presence in class sessions is very important to ensure projects are progressing satisfactorily and that you understand the readings and lecture materials. Make sure that you complete the readings so that you can apply them to your project and discuss them in class; we will assume that all students have read and understood the readings.

Conversion of numerical grades to final letter grades follows the Dalhousie Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (0-49)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies on Missed or Late Academic Requirements

You may submit an individual assignment up to one week past the due date once during the term without penalty. When you submit an assignment using this extension, simply indicate in the submission on Brightspace that you are using your extended deadline opportunity. Late submissions of individual assignments ineligible for the extended deadlines will receive a late penalty of 10%/day, up to a maximum of seven days (including weekends), after which a grade of zero will be assigned.

If you are unable to submit an assessment (e.g., due to illness), you must email a completed Student Declaration of Absence Form to the instructor as soon as possible and by no later than three days after the missed submission deadline, otherwise a grade of zero will be assigned for the missed assessment.

If you are unable to attend a class with scheduled group work, you should notify your team as soon as possible and preferably prior to the start of the class.

Course Policies related to Academic Integrity

Students are expected to complete individual assignments independently. For group assessments, students are expected to collaborate with their teammates to learn from each other and share responsibilities.

This course adheres to the ethics requirements of the Office of Research Services at Dalhousie University.

Learning Objectives

This course enables you to advance your knowledge and skills in environmental and sustainability research and apply these to a contemporary problem on the university campus. You will work with your peers and scholars to develop skills in research, organization, and project management.

Learning Outcomes:

- Develop effective research questions and strategies for approaching research
- Define and identify key elements of environment and sustainability issues supported by national and international policies on university campuses
- Demonstrate understanding of research objectives and familiarity with qualitative, quantitative, and mixed methods approaches
- Demonstrate knowledge of probabilistic and non-probabilistic sampling methods
- Demonstrate understanding of methods to maintain rigour in scholarly research using terms such as reliability, validity, and trustworthiness
- Demonstrate understanding of interactive methods (e.g., surveys, interviews, focus groups, observation)
- Demonstrate ability to develop effective questions for surveys, interviews, and focus groups
- Develop understanding and demonstrate skills in qualitative data analysis techniques
- Develop understanding and demonstrate skills in quantitative data analysis techniques
- Communicate research project with accuracy and credibility to a target audience

Course Content

Date	Topic* (readings posted on Brightspace)
Thursday January 8	Welcome Photovoice (Exercise 1)
Tuesday January 13	Sustainability at Dal Guest lecture
Thursday January 15	Research questions (Exercise 2) Worksheet 1
Tuesday January 20	Research proposal Worksheet 2
Thursday January 22	Literature searches Guest lecture
Tuesday January 27	Data collection Survey questions (Exercise 3)

Thursday January 29	Worksheet 3
Tuesday February 3	Research ethics
Thursday February 5	Worksheet 4
Tuesday February 10	Data analyses Exercise 4
Thursday February 12	Group work open session
Tuesday February 17	No class (Winter Break)
Thursday February 19	No class (Winter Break)
Tuesday February 24	Research proposal feedback Worksheet 5
Thursday February 26	Worksheet 6
Tuesday March 3	Expectations for final report and presentation
Thursday March 5	Worksheet 7
Tuesday March 10	Group work open session
Thursday March 12	Worksheet 8
Tuesday March 17	Group work open session
Thursday March 19	Worksheet 9
Tuesday March 24	Group work open session
Thursday March 26	Worksheet 10
Tuesday March 31	Group work open session
Thursday April 2	Pecha Kucha presentations
Tuesday April 7	Pecha Kucha presentations
Thursday April 9	No class (Friday classes)

*Please note this schedule is subject to change

University Policies and Statements

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 at 1321 Edward St or elders@dal.ca. Additional information regarding Mi'kmaq and Indigenous Relations (including the Elders in Residence program, Land Acknowledgements, Understanding Our Roots, and much more) can be found at: <https://www.dal.ca/about/mission-vision-values/mikmaq-indigenous-relations.html>

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: <https://www.dal.ca/about/mission-vision-values/global-relations.html>

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all 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. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (https://www.dal.ca/campus_life/ssc.html).

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

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 (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: <https://www.dal.ca/about/mission-vision-values/equity-diversity-inclusion-and-accessibility/about-office-equity-inclusion.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. The full Code of Student Conduct can be found at:

<https://www.dal.ca/content/dam/www/about/leadership-and-governance/governing-bodies/code-student-conduct.pdf>

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at: <https://www.dal.ca/content/dam/www/about/leadership-and-governance/university-policies/fair-dealing-policy.pdf>

Student Use of Course Materials

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

Student Resources

University Policies and Programs

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

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

Classroom Recording Protocol: <https://www.dal.ca/content/dam/www/about/leadership-and-governance/university-policies/class-recording-protocol.pdf>

Dalhousie Grading Practices Policies:

<https://www.dal.ca/content/dam/www/about/leadership-and-governance/university-policies/grading-practices-policy.pdf>

Grade Appeal Process: https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html

Sexualized Violence Policy: <https://www.dal.ca/content/dam/www/about/leadership-and-governance/university-policies/sexualized-violence-policy.pdf>

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

Learning and Support Resources

General Academic Support – Advising (Halifax): https://www.dal.ca/campus_life/academic-support/advising.html

General Academic Support – Advising (Truro): https://www.dal.ca/campus_life/ssc.html

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

On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond): https://www.dal.ca/campus_life/academic-support/On-track.html

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

Mi'kmaq and Indigenous Relations: <https://www.dal.ca/about/mission-vision-values/mikmaq-indigenous-relations.html>

Elders-in-Residence (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 or contact the program at elders@dal.ca or 902-494-6803: <https://www.dal.ca/about/mission-vision-values/mikmaq-indigenous-relations/elders-in-residence-and-traditional-knowledge-keepers.html>

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

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

LGBTQ2SIA+ Collaborative: <https://www.dal.ca/about/mission-vision-values/equity-diversity-inclusion-and-accessibility/about-office-equity-inclusion/community-specific-groups/lgbtq2sia-collaborative.html>

Dalhousie Libraries: <http://libraries.dal.ca/>

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

Dalhousie Student Advocacy Services: <https://www.dsu.ca/dsas?rq=student%20advocacy>

Dalhousie Ombudsperson: https://www.dal.ca/campus_life/safety-respect/ombudsperson.html

Human Rights and Equity Services: <https://www.dal.ca/about/mission-vision-values/equity-diversity-inclusion-and-accessibility/about-office-equity-inclusion/human-rights-and-equity-services.html>

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

Study Skills/Tutoring: http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Faculty of Science Advising Support: <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

Safety

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

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

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

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