Environmental Problem Solving II: The Campus as a Living Laboratory Syllabus
Department of Earth and Environmental Sciences
ENVS/SUST 3502 Winter 2025

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Course Instructor

Name	Email	Student Hours
Dr. Caroline Franklin (she/her)	Caroline.Franklin@dal.ca	By appointment in LSC 3084 (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

Mondays and Wednesdays at 16:05 - 17:25 in Goldberg Computer Science Building 127

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 13
Exercise 1	7%	January 19
Exercise 2	7%	January 26
Exercise 3	7%	February 2
Exercise 4	7%	February 4
Peer and self-assessment	5%	Part 1 due March 2; Part 2 due April 8
Infographic	10%	April 8
Group		
Research proposal	10%	February 14
Pecha Kucha group presentation	10%	March 31 and April 2
Draft research report	12%	March 21
Final research report	15%	April 7
In-class group worksheets	10%	Throughout term

Assessment Details

Individual Assignments

Personal profile
- To 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 upon 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 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 a presentation at the class Pecha Kucha days. 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's 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, 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 an submit 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.

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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 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 typology of research objectives and familiarity with Wallace's Wheel, 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 your project knowledge with accuracy and credibility to a target audience

Course Content

Date	Topic	Readings (posted on Brightspace)
Mon Jan 6	Welcome and introductions	Colding and Barthel 2017
Wed Jan 8	Photovoice Exercise 1 overview	Wass et al. 2020; Evans-Agnew & Rosemberg 2016; Bennett et al. 2019
Mon Jan 13	Research overview	Persson et al. 2018
Wed Jan 15	Sustainability at Dal Guest lecture	https://www.dal.ca/about/mission-vision-values/sustainability.html

Mon Jan 20	Research preparations Exercise 2 overview	https://writingcenter.gmu.edu/writing-resources/research-based-writing/how-to-write-a-research-question; Snyder 2019
Wed Jan 22	Worksheet 1	-
Mon Jan 27	Data collection Exercise 3 overview	https://www.formpl.us/blog/biased-survey-question-example https://management.org/businessresearch/interviews.htm
Wed Jan 29	Data analyses Exercise 4 overview	Erlingsson and Brysiewicz 2017
Mon Feb 3	Research proposal Worksheet 2	Abdulai and Owusu-Ansah 2014
Wed Feb 5	Research ethics Worksheet 3	Cascio and Racine 2018; Dooly et al. 2017
Mon Feb 10	Worksheet 4	-
Wed Feb 12	Group work open session	-
Mon Feb 17	No class (Winter Break)	-
Wed Feb 19	No class (Winter Break)	-
Mon Feb 24	Research proposal feedback Worksheet 5	-
Wed Feb 26	Worksheet 6	-
Mon Mar 3	Expectations for final report and presentation	-
Wed Mar 5	Team building Worksheet 7	-
Mon Mar 10	Worksheet 8	-
Wed Mar 12	Research in practice	-
Mon Mar 17	Worksheet 9	-
Wed Mar 19	Group work open session	-
Mon Mar 24	Worksheet 10	-
Wed Mar 26	Group work open session	-
Mon Mar 31	Pecha Kucha presentations	-
Wed Apr 2	Pecha Kucha presentations	-

This schedule is tentative and subject to change.

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/dept/university_secretariat/policies/academic/classroom-recording-protocol.html

Dalhousie Grading Practices Policies:
https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

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/dept/university_secretariat/policies/health-and-safety/sexualized-violence-policy.html

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/about-dal/agricultural-campus/ssc/academic-support/advising.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

Indigenous Connection: https://www.dal.ca/about-dal/indigenous-connection.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://cdn.dal.ca/content/dam/dalhousie/pdf/academics/UG/indigenous-studies/Elder-Protocol-July2018.pdf

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

South House Sexual and Gender Resource Centre: https://southhousehalifax.ca/about/

LGBTQ2SIA+ Collaborative: https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/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/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Human Rights and Equity Services: https://www.dal.ca/dept/hres.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

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 the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.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-dal/internationalization.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/about-dal/agricultural-campus/student-success-centre.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: http://www.dal.ca/cultureofrespect.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/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

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/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.html

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.