

Field Methods in Environmental Science Syllabus

Department of Earth and Environmental Sciences

ENVS 2500 Fall 2023

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	Wednesdays 12:00 - 14:00 in LSC 813 or by appointment (email to schedule)

Course Description

A field-based immersion into environmental field sampling methods. Students gain skills in flora and fauna identification and inventory, assessment of ecosystem health, and sampling methods for air and soil. GPS, GIS, and basic remote sensing skills are utilized in sampling design, collection and visualization of results.

Course Prerequisites

ENVS 1100.03 and ENVS 1200.03 (or ENVS 1000.06)

Course Structure

Course Delivery

Blended:

- In-person for class time on Fridays (attendance is required for excursions and activities) and final exam
- Asynchronous online videos posted on Brightspace

Class

Fridays at 9:35 - 12:25 in LSC-BIOL&EARTH B2030 (and various field locations)

Course Materials

- Students are expected to check Brightspace regularly for announcements and files.
- There is no textbook for this course. Field guides, binoculars, and digital resources will be provided.
- Students must have a field notebook. An all-weather notebook (e.g., Rite in the Rain) is an option and may be available for purchase at the Dal Bookstore. Students can choose a used notebook if there are enough empty pages (minimum 24). Sketching will be required during the course so a notebook without lines is recommended if a student prefers drawing on blank pages.
- A smart phone is required as we will use free mobile apps such as Merlin (Cornell Lab), Cram (digital flash cards), and iNaturalist. All apps are free and available on multiple platforms (e.g., iOS, android).
- Students are expected to have appropriate outerwear for comfortably conducting field work in variable weather conditions.

Assessment

Component	Weight (% of final grade)	Date
Species ID Quizzes*	20% (10 quizzes at 2% each)	Ongoing
Field Journals	25% (1 st check at 10%; 2 nd check at 15%)	October 3 and November 10
Oral Presentation	10%	November 24
Final Species ID Quiz	10%	December 1
Final Exam	25%	Scheduled Exam Period
Participation**	10%	Ongoing

* Students are expected to participate in all activities. Assessment is based on attendance, engagement, contributions to field work, equipment care, and questions asked during peer presentations.

**There are a total of 11 quizzes; however, the quiz with the lowest grade will not be considered.

Other course requirements

Field Excursions

- There are several on and off-campus field excursions that are the core of this course. They enable students to develop field skills, build outdoor competencies, collect data, and have fun!
- All field excursions are mandatory. If a student must miss a class, they are required to notify the instructor as soon as possible and no later than the start of the class. A justifiable reason for the absence is expected. Missing a class may result in a deduction from the final participation grade because the absence could cause a lack of contribution to data collection and/or unanticipated responsibilities of group members.

- Excursions will proceed as planned unless there is an extreme weather warning. If the weather prevents us from leaving campus the schedule may be revised or an alternate indoor exercise may be planned.
- Students are expected to carefully use and return all field equipment.
- Field safety is of critical importance. All students are expected to behave responsibly and safely.
- If a student has any health or mobility-related issues that may affect their safety or ability to perform fieldwork, they must inform the instructor at minimum TWO weeks in advance of the first field trip for accommodations.
-

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

Late penalties: Late assignments will be subject to a late penalty of 10% per day (including weekends). Assignments submitted seven calendar days past the due date will be assigned a zero. If you require an accommodation, please speak with the instructor in advance of the due date or at most, two days after the due date has passed.

Missed Quiz or Field Excursion: Students must email the instructor prior to the quiz if they are not able to write the assessment. One lowest or missed quiz grade will be dropped. Cases will be reviewed individually to determine if a missed assessment will be replaced by (a) a make-up quiz offered on another date, (b) an alternate assignment, or (c) a re-weighting of already assessed components. Missing a field day without just cause will result in a 2% deduction from the final participation grade. The reason for this is the absence indicates no contribution to data collection or the processing of samples, and in some cases, leaves group members with additional work. Students who miss a class must still complete the assignment and speak with classmates to receive data.

Student Declaration of Absence: The Student Declaration of Absence (SDA) Form will be used for absences of three days or fewer that result in missed or late academic requirements. If necessary, the completed form should be emailed to the instructor. Submission does not provide automatic exemption from any academic requirements that were missed or late during an absence. Any alternate coursework arrangements for missed or late academic requirements are at the discretion of the instructor.

Course Policies related to Academic Integrity

Students are encouraged to work together on data collection, but the collaborative effort must be fair, balanced, and devoid of copying from peers. All online quizzes must be written individually.

Learning Objectives

- Develop skills in visual and/or auditory identification of eastern Canadian amphibians, birds, reptiles, and trees
- Apply basic field techniques to survey wildlife, assess soil, and sample other biotic and abiotic components
- Utilize GPS and basic GIS tools to incorporate a spatial dimension into sampling activities
- Experiment with visualization techniques appropriate for environmental field data

Course Content

Week	Date	Lesson Topic	Assessment
1	September 8	Introduction Campus Exploration	Certification: Care and Use of Wildlife*
2	September 15	Urban Tree Walk Trees	Quiz 1 (due September 20 at 11:59 pm)
3	September 22	Middle Sackville (BUS) Turtles	Quiz 2 (due September 27 at 11:59 pm)
4	September 29	Dal Biodiversity Day Campus Event	Quiz 3 (due October 4 at 11:59 pm) Field journal due October 3 at 12:00 pm
5	October 6	Hemlock Ravine Park Forest Pests	Quiz 4 (due October 11 at 11:59 pm)
6	October 13	Frog Pond Park (BUS) Amphibians	Quiz 5 (due October 18 at 11:59 pm)
7	October 20	Point Pleasant Park Birds	Quiz 6 (due October 25 at 11:59 pm)
8	October 27	Polly's Cove (BUS) All Species	Quiz 7 (due November 1 at 11:59 pm)
9	November 3	Soil Analyses Lab Work	Quiz 8 (due November 8 at 11:59 pm)
10	November 10	Course Review	Quiz 9 (due November 15 at 11:59 pm) Field journal due at beginning of class
11	November 17	No Class (Fall Study Break)	Quiz 10 (due November 22 at 11:59 pm)
12	November 24	Oral Presentations	Individual presentation in class Quiz 11 (due November 29 at 11:59 pm)
13	December 1	Final Species ID Exam	Exam in class

This schedule is tentative and subject to change. Any amendments will be posted on Brightspace.

*All students must write and pass the certification to be able to participate in field activities. Materials are posted on Brightspace, and the test is online. A minimum grade of 70% is considered a pass. All students must pass before the second week of class.

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.