

ENVS2500 | Fall 2026

Field Methods in Environmental Science

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: Dr. Amy Mui | amy.mui@dal.ca | Use my booking link to set up an appointment or email me directly

Teaching assistants: Ashton Leal (ashton.leal@dal.ca), Linden Thomas (linden.thomas@dal.ca)

	DAY	TIME	LOCATION
Class	THURS	8:35am – 12:25pm	LSC-BIOL&EARTH B2030 (& various field locations)

Course Description:

This course offers an immersion into environmental sampling and analytical methods including both abiotic and biotic components of ecosystems. Scheduled during the fall academic term, students gain skills in wildlife species identification and surveying, and sampling methods for components such as air, sound, and soil. GPS (global positioning system) units and geographic information systems (GIS) are utilized in sampling design, collection, and visualization of results.

Prerequisites: ENVS 1100.03 and ENVS 1200.03, or equivalent and open only to students in the BSc or BA Environmental Science Programs

Learning Objectives / Outcomes:

- Develop skills in visual and auditory identification of Eastern Canadian birds, reptiles, amphibians, and trees
- Apply field techniques to survey wildlife, trees, soil, and other biotic and abiotic components of ecosystems
- Become familiar with the use of mobile tools to assist in identification
- Practice stewardship and advocacy for nature through a variety of activities

Course Delivery & Materials:

- This is a blended course. Videos are available on Brightspace and will be posted weekly. Watch these prior to class. In-person time is for field excursions and lab activities.
- There is no textbook for this course. Field guides, binoculars, and digital resources will be provided.

- A smart phone is required as we will use free mobile apps such as: Merlin (Cornell Lab), Cram (digital flash cards), ArcGIS Field Collector, and iNaturalist. All apps are free and available on multiple platforms (iOS, android).
- Students must have a field notebook. All-weather is an option (like Rite in the Rain) but not required – you may use an existing one as long as there are enough empty pages (minimum 24). You will be sketching during this course so if you prefer blank pages, find a notebook without lines.
- Ensure you have appropriate outerwear for comfortably conducting field work in variable weather conditions

Field Excursions:

- There are several on and off-campus field visits that make up the heart of this course. Excursions develop your field skills, build outdoor competencies, and connect you with your peers and various guest hosts in the field of environmental conservation.
- We are at the mercy of Atlantic region weather; however, excursions will go ahead as planned unless there is an extreme weather warning. In the event the weather prevents us from leaving campus the schedule will need to be re-arranged where possible, or an alternate indoor exercise will be planned instead.
 - You may miss ONE (1) field trip with no penalty, but it is your responsibility to discuss absences with me ahead of time so I am not worrying if you slept in while the bus is waiting.
 - ONE or TWO additional field trips will be planned on a Saturday or Sunday (weather permitting). Regularly scheduled classes later in the term will be cancelled to balance out these weekend additions.
- Field safety is of critical importance, regardless of how far from campus we may venture. All students are expected to behave in a responsible and safe manner and to ensure that field equipment is used appropriately and well-maintained. **If you have any health or mobility-related issues that may affect your safety in the field, inform me at minimum TWO (2) weeks in advance of the first field trip so accommodations can be made.**

Course Assessment

Component	Weight	Date
Species ID Quizzes	20% (10 quizzes x 2% each)	Ongoing / Weekly
Field Journals	20% (2 checks, 10% each)	Mid / End term
Story Map	15%	End of term
Presentations	15%	End of term
Participation	5%	Ongoing
Final Species ID Quiz	25%	Last class of term

Quizzes. Species Identification skills are assessed via weekly 2% quizzes to test your knowledge on common, invasive, and threatened species known to this region. This is an intensive introduction to species identification. Ongoing exercises will be provided to support retention and expansion of these skills. A final Species ID Quiz will be held on the last class of term. At the end of the term, there will be a final quiz valued at 25%. This will take place during the last class of the term. There will be no final exam held during exam period.

Field Journals & Story Maps: These exercises support your learning and record keeping for each week which as we venture away on field trips and campus or lab-based activities.

Presentation. Short presentations in pairs or singly will cover a unique species conservation story with an international perspective. This is a chance to share what pioneering groups have done across the globe to manage invasive species, restore balance, and preserve ecosystem function.

Participation. The expectation is that every student will participate in the weekly activities. Assessment for participation therefore is based on engagement with guest speakers, responding to class prompts and activities, contributions to field work, and equipment care.

Late penalties: Late assignments will be subject to a late penalty of 10% per day (including weekends). Assignments submitted 7 calendar days past the due date will be assigned a zero. If you require an accommodation, please speak with me in advance of the due date.

Course Schedule

SPECIAL NOTE: Bus shortages and the usual unpredictable maritime weather means that we may not adhere to the schedule below exactly as it is. Please aim to be adaptable and I will give as much notice as possible of any changes.

Date		Class Activity	Due Dates
Sept	10 Th	Welcome to ENV52500	Complete Quiz 1
	17 Th	Learning to Bird (Campus / City Walk) VIDEOS: Eastern Canadian Birds	Complete Quiz 2
	24 Th	No Class Today: Complete Wildlife Certification VIDEO: Eastern Canadian Birds	Complete Quiz 3 *Complete Certification Test*
Oct	1 Th	Amphibian Day (BUS) **8:30am departure** VIDEO: Amphibians & Reptiles (Herps)	Complete Quiz 4
	3 SAT	Polly's Cove (BUS)**10:30-2:30**	**Attend at least 1
	4 SUN	Turtle Conservation Day (BUS) **12-4**	weekend trip **
	8 Th	Urban Tree Walk w/ Dr. Peter Duinker VIDEO: Urban Trees	Complete Quiz 5 Submit Field Journals in class
	15 Th	Forest Conservation Day (BUS) *7:30am departure* VIDEO: Tree Pests & Diseases	Complete Quiz 6
	22 Th	Soil Science: Soil components (Campus) VIDEO: Introduction to Soils	Complete Quiz 7
	29 Th	Soil Science: Soil organisms (Campus) VIDEO: Soil Microbiology	Complete Quiz 8

Nov	5	Th	Presentations WEEK 1	<i>Complete Quiz 9 Submit Field Journals in class</i>
	12	Th	Fall Study Break NO CLASS	<i>Quiz 10</i>
	19	Th	Presentations WEEK 2	<i>Complete Quiz 11</i>
	26	Th	REVIEW CLASS	<i>Submit Story Maps</i>
Dec	3	Th	Final Species ID Quiz (In-Class)	
Dec	11-20		Exam Period (No exam for ENVS2500)	

**All students must write and pass the certification to be able to participate in field activities. Materials will be posted on Brightspace and you may complete the test online. A minimum grade of 70% is considered a pass. All students must pass before the first off-campus excursion.*

ENVS2500 Policy on Generative AI

GenAI cannot do the learning for you. Real learning that lasts and builds your skills requires effort and challenge. LLMs like CoPilot, ChatGPT, Claude, can be useful tools if used to support learning but not replace learning. You must also develop your own moral stance on whether it is environmentally ethical to use genAI as a citizen of Earth. This course will help you decide where you stand. REMIND YOURSELF: an LLM is not a person. It's a machine trained to recognize patterns and reflect those patterns back at us. It can hallucinate and send back wrong answers with high confidence. It cannot think for itself. And it cannot think for you. With this in mind, you must adhere to the following guidelines in this class:

-  You cannot use LLMs to answer quiz questions or generate any part of your story map. This is an academic integrity offence and will not prepare you for the exams.
-  Due to privacy and confidentiality issues, you cannot paste any course material into a GenAI tool – unless you have been instructed to do so for an assessment. This includes – but is not limited to – quiz questions, learning objectives, case-studies, course materials (e.g, slides, text), etc.
-  You are free to use genAI to give you feedback on notes you have created yourself, identify key points to research more, explain a general concept, or provide practice exam questions. Always ask for responses that are evidence-based and review the sources.
-  Fact-check all AI outputs. Assume it is wrong unless you cross-check the claims with reliable sources. GenAI models will confidently reassert factual errors. You are responsible for any errors or omissions. Often if you question the AI or ask it to fact-check itself, holes will appear.

IMPORTANT: Generative AI (GenAI) currently poses considerable privacy risks. To mitigate these risks, use the Dalhousie-licensed version of Copilot and avoid inputting personal information.

IMPORTANT NOTES:

- This schedule is tentative and may change slightly depending on weather, bus changes, class interests and time available. The syllabus will be updated if any changes are made and posted on Brightspace.
- All course materials will be posted on Brightspace - please login to the site regularly. In order to receive timely notifications, please **sign-up to receive immediate text or email notifications** when new course announcements appear. You can do so by clicking on your

name in the top right corner of Brightspace > select *Notifications* > under *Instant Notifications* check “Announcements – new announcement available”.

- Check this website for the last day to drop fall session courses without a ‘W’ (for withdrawn): https://www.dal.ca/academics/important_dates.html
- 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)	

Course 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.

- 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](#). 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)

Syllabus Appendix

Click on the link to access student supports, university policies, and guidelines:

[Syllabus Appendix: Student Supports & University Statements, Policies, and Guidelines](#)