

Faculty of Science Course Syllabus (Section A) (revised June 2021)**Department of *Biology****BIOL3639**Herpetology**Summer 2022*

***Dalhousie University is located in Mi'kma'ki, the ancestrald unceded territory of the Mi'kmaq.
We are all Treaty people.***

Instructor(s): *Andrea Gigeroff andrea.gigeroff@uottawa.ca No official office hours – if
you need to contact me outside of classtime, send me an email and we can arrange a meeting*

Lectures: *Monday-Saturday, 9-5*

Laboratories: *N/A*

Tutorials: *N/A*

Course delivery: *In-person*
Lectures will be recorded

Course Description

This course is an introduction to herpetology, the study of reptiles and amphibians. Through lectures, activities, and field trips, this course will give an overview of the diversity, ecology, physiology, and conservation of reptiles and amphibians. There will be a focus on diversity of reptiles and amphibians in Nova Scotia

Course Prerequisites

BIOL 2003 and BIOL 2060, or permission of the instructor

Course Exclusion

N/a

Learning Objectives

By the end of this course, you will:

- Be familiar with the major taxonomic groups of reptiles and amphibians, their ecology, and their biology, and how they differ from other vertebrate taxa
- Be able to identify Nova Scotian reptiles and amphibians to species
- Be familiar with the pros and cons of different sampling methodology used in herpetology, and what methods are appropriate for what taxa
- Be able to compare anatomical, physiological, and ecological features between different major taxonomic groups of reptiles and amphibians
- Be familiar with the major global and local threats to reptiles and amphibians, and the ecological consequences of herpetological biodiversity loss
- Have practiced the following skills:

- Developing and testing hypothesis to address a particular research question in herpetology
- Collaborate with a group to present and describe ecological data for a scientific audience
- Present natural history information to a general audience

Course Materials

All course materials will be provided on Brightspace. There is no textbook for this class. Most materials needed for field trips will be provided with the following exception:

A recording device to be used to record frog calls. This can be your phone – you don't necessarily need a special recording app, as you can use the video recording function so long as it records sound. Only one person per group will need to record (although having backups is a good idea!)

Helpful Websites

The following websites may be helpful for your studying:

<http://www.canadianherpetology.ca/>

<https://novascotia.ca/museum/amphibians/defaulten.asp>

Helpful Texts

There is no textbook for this class, and I will have one or two field guides on hand during field trips. The following are great texts to help you in your studying, and good to have on hand for herping in the future: *Peterson Field Guide to Reptiles and Amphibians of Eastern and Central America* by Roger Powell, Roger Conant, and Joseph Collins. Houghton Mifflin Harcourt, 4th edition, 2016.

Course Assessment

Assessment	Weight (% of final grade)	Date
<i>Assignments</i>		
Student expectations	2%	16 May
In-class exercises and reflections	6 @ 3% each (=18%)	16, 17, 18, 21, 24, 26 May
Species presentation	15%	24 May
Local species observations	4 @ 5% each (20%)	28 May
Data assignments	3 @ 10% each (30%)	18, 25, 27 May
<i>Final exam</i>	15%	30 May

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 Policies on Missed or Late Academic Requirements

Late assignments will be penalized 10% per day for the first two days, and then will receive a mark of 0. If you are unable to complete an assignment, use the Student Declaration of Absence form. The weight of the missed assignment will be transferred to the final exam.

We will have several in-class exercises throughout the course. The exercises will be able to be completed and submitted on brightspace for 24 hours, so no absence form is required if you are unable to attend class on the day of the exercise.

If you are unable to write the final exam on May 30, notify me within 24 hours and we will arrange a make-up exam

Course Policies related to Academic Integrity

The data assignments will be conducted in small groups. All other work is to be completed individually

Course Content

Monday May 16 th	
	<ul style="list-style-type: none"> - Lecture: Introduction and housekeeping - Lecture: Taxonomy - Lecture: Local Diversity
14:00-15:30	<ul style="list-style-type: none"> - Field Trip: Museum of Natural History
Tuesday May 17 th	
	<ul style="list-style-type: none"> - Lecture: Local Diversity II - Lecture: Evolution - Lecture: Research Methods - Lecture: Anatomy & Physiology - Lecture: Anatomy & Physiology
20:00-22:00	<ul style="list-style-type: none"> - Field Trip: Purcell's Cove Frog Pond (Frog Calls)
Wednesday May 18 th	
	<ul style="list-style-type: none"> - Lecture: Ecology - Lecture: Ecology
15:00-18:00	<ul style="list-style-type: none"> - Field Trip: Hemlock Ravine (Day Trip)
Thursday May 19 th	
11:00	<ul style="list-style-type: none"> - Leave Dal for Keji Seaside
14:00-18:00	<ul style="list-style-type: none"> - Hiking & Observational Surveys
20:00-22:00	<ul style="list-style-type: none"> - Frog Call Surveys
Friday May 20 th	
10:00-12:00	<ul style="list-style-type: none"> - Optional Observations
14:00-18:00	<ul style="list-style-type: none"> - Hiking & Observational Surveys
20:00-22:00	<ul style="list-style-type: none"> - Frog Call Surveys
Saturday May 21 st	
10:00	<ul style="list-style-type: none"> - Pack up and head back to Halifax

Sunday May 22 nd	SUNDAY, DAY OFF
Monday May 23 rd	HOLIDAY, DAY OFF
Tuesday May 24 th	
	- Lecture: Behaviour
	- Lecture: Reproduction
	- Student Presentations
	- Field Trip: Hemlock Ravine (Frog Calls)
Wednesday May 25 th	
	- Open time to work on assignments
15:00-18:00	- Field Trip: Long Lake (Day Trip)
Thursday May 26 th	
	- Lecture: Conservation
	- Open time to work on assignments
20:00-22:00	- Field Trip: Point Pleasant Park (Frog Calls)
Friday May 27 th	
	- Open time to work on assignments
15:00-17:00	- Field Trip: Point Pleasant Park (Day Trip)
Saturday May 28 th	EXTRA TIME IF BEHIND ON LECTURES
Sunday May 29 th	SUNDAY DAY OFF
Monday May 30 th	
	- Final Exam

Note: this is a tentative schedule dependent on weather, and general pace of the lectures. Major deviations from this schedule will be posted on brightspace and announced via email

Brief Description of Assessments

Student Expectations: at the start of the class, I would like you to write down one or two things you are hoping to learn from this course. This is a good way for you to focus your goals for the next two weeks, and a good way for me to learn your names on the first day.

In-Class Worksheets, Reflections, and Fieldwork Data Sheets: these will be three worksheets with 2-3 short answer questions or 1-2 medium-answer questions about the day's lecture; two short pieces of reflective writing about field trips; and one data collection sheet from the Harrison Lewis Centre. Worksheets, reflections, and datasheets can be completed and handed in during class, but you will have 24 hours and the option to submit them via brightspace

Species Presentations: a short (~7 minutes) presentation to the class about a reptile or amphibian species of your choosing (excluding species endemic to Nova Scotia). The presentation component is worth 10%, and must include the species name and taxonomy (class, order, family) and range, and at least one thing that you think is cool or interesting about that species. Everything else is up to you! There is a 5% participation mark – each student must ask at least 2 questions during the entire presentation session (i.e., in total, not per presentation)

Local Species Observations: formal observations of four different local herp species. These will include GPS location, time and date, and either a photo, video, or audio recording of the animal. These will also include identification to species. Observations will be marked for completion and accuracy

Labs: there are three group exercises that will be done with data you collected, or that is provided to the class. Each lab will include a statistical test, a visual representation of the data, and a short written summary to describe and/or interpret the data. How you perform statistical tests is up to you and your group (i.e., you can use excel, R, whatever you are comfortable with). Labs will not be held on campus, and can be completed from home – you are welcome to meet with your group in person, but the labs can be accomplished over zoom. I will be available to help during “lab time”.

- Abundance Lab: measure and compare abundance of reptiles and amphibians downloaded from iNaturalist in rural versus urban areas
- Snake Lab: compare provided body length of two species of snake with provided road density
- Frog Call Lab: compare species diversity of frog calls that you recorded with air temperature

Exam: the final exam will include identification of Nova Scotian reptile and amphibian species from photographs and audio clips, short answer questions, and one long answer question.

Field Trips

All Field Trips

All field trips will involve a certain degree of hiking. Most will not have public washrooms, or water fountains available. Wear comfortable closed-toed shoes, and dress in layers for all field trips (especially evening trips) – it may be very hot in the day and very chilly at night, so prepare for anything! Bring lots of water and snacks. Bringing toilet paper and hand wipes is advised in case you need to fertilize a bush. Sunscreen, bug spray, and hats are also highly recommended.

During our field trips, be respectful! Try to minimize damage to the natural areas by staying on the trails, and by picking up and packing out any litter you create (e.g., snack wrappers, toilet paper, etc).

- General Field Trip Rules: alcohol and recreational cannabis products are not permitted on Dal field trips (and illegal drugs are not permitted anywhere), including our overnight trip

Local Field Trips

We will be doing several field trips to parks and trails around Halifax that are accessible by public transit. We will meet at the designated location posted to brightspace at the designated time (usually 3PM for day trips, and 8PM for evening trips). With the exception of our first local field trip to the Museum of Natural History, all local field trips are **weather dependent**. Reptiles and amphibians are generally not very active when it is raining hard, so we will not be doing fieldwork in heavy rain. Keep an eye on the weather forecast and your email – if our trip is cancelled, I will send out an email at least 1 hour before the start of the trip. If you are unsure whether a field trip is cancelled or not, you can call or text me at (506) 238-3150. I have scheduled two trips to almost all locations, so hopefully we will get to visit each one at least once. Daytime trips will consist of hiking a trail and observing any herps we encounter. Evening trips will consist of gathering at a frog breeding ground and remaining stationary while we record frog calls. If we are lucky, we will observe some frog mating behaviour.

Overnight Trip

We will be going on an overnight trip to the Harrison Lewis Centre in Port Joli, Nova Scotia from Thursday May 19th to Saturday May 21st. The HLC has electricity, wifi, bathrooms, showers, and a full kitchen. As well, there are cabins with bunk beds – we may need to bunk up depending on how many of us there are. We will be conducting observational hikes, and frog call surveys in a less urbanized environment here.

- What to Bring: bedding (sleeping bag, or blankets, pillows); changes of clothes appropriate for different weather conditions; toiletries like soap, shampoo, toothpaste, etc; food will be provided but snacks are always good, there is a fire pit so campfire treats are welcome



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- Travel to HLC: we will be traveling in rented vans. Dal's insurance does not allow students to drive other students on field trips, so if you would prefer to bring your own vehicle you may, but you cannot bring one of your classmates with you (another thing to consider: more vehicles = larger carbon footprint)
- HLC Rules:
 - o No food in cabins or tents, keep ALL food in the main hall
 - o No pets
 - o No littering
 - o No smoking inside or near the cabins and hall
 - o Stay on the trails as much as possible
 - o Stay off the dunes

Faculty of Science Course Syllabus (Section B) (revised June-2021)**Fall/Winter 2021-22***BIOL3639*

Please ensure that the following information on University Policies is available to all students in your course. This document should be sent to students in your course along with your Course Syllabus, Section A, or may be copied into your **Course Syllabus (Section A)**.

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of 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.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.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.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

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

Statement: <http://www.dal.ca/cultureofrespect.html>

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 (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

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

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

University Grading Practices

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

Faculty of Science Course Syllabus (Section C) (revised June-2021)**Fall/Winter 2021-22***BIOL3639*

Please ensure that the following information on Student Resources is available to all students in your course. This document should be made available to students on the course Brightspace page, or elements may be copied into your **Course Syllabus**.

Student Resources and Support**Advising**

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

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

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

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

Academic supports

Library: <https://libraries.dal.ca/>

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

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

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

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

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

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

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

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

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

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

Dalhousie COVID-19 information and updates: <https://www.dal.ca/covid-19-information-and-updates.html>



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