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**Faculty of Science Course Syllabus BIOL 3622 'Ornithology'  
Department of Biology, Summer Term 2023**

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

**Instructor: Sarah E. Gutowsky**

**Course email: dalhousie.ornithology@gmail.com**

**(no office hours, available during course at all times by email or phone)**

**On-campus June 17 – 21**

**Lectures (0905-1155) \*room TBA\* & Labs (1305-1655) \*room TBA\***

**Off-campus June 22 – 29 (field trip)**

**On-campus June 30 – July 3 (see schedule for details)**

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### **Course Description from the Dalhousie Academic Calendar**

Overview of avian biology and techniques for the scientific study of bird populations, including identification by sight and sound. Field-intensive, with 8 days in the field, including one week camping at a field station in southwestern Nova Scotia to conduct research on birds in their natural habitats.

### **Course Prerequisites**

BIOL 2003.03 (Diversity of Life) or BIOL 2060.03 (Introductory Ecology) or BIOA 3001.03 (Ecology) or permission of the instructor.

### **Course Materials**

Course materials will be provided through the BrightSpace course website and email announcements. Students are expected to check the site daily for course updates and to carefully and promptly read all course emails. There is no assigned textbook for this course but you are required to acquire three episodes of the BBC documentary series Life of Birds (1998) [available on iTunes](#) for \$18.99. There is also one copy available for loan through Dalhousie's Library services but it is strongly recommended that you purchase your own personal copy (all of the episodes are fantastic).

### **Course Overview**

This course is designed to give students an overview of avian biology, with an emphasis on studying birds in the field. This field-intensive class is hands-on and applied; students learn by doing. Through focused and condensed lectures, team exercises, hands-on labs, documentary viewing, and extensive field trips to a variety of Nova Scotia ecosystems,



you will learn about the evolution, adaptations, and diversity of birds, key aspects of their ecology and behaviour, and techniques and strategies for the study of their behaviour, populations and communities. You will also gain experience in conducting field studies, including study design, data collection, data analysis and presentation of results. You will be amazed at how much you will have learned in just over 2 weeks. A walk in the woods will never be the same again!

### **Course Learning Objectives**

At the end of the course, students will be able to:

- 1) *Explain* the behavioural, morphological, and physiological characteristics that distinguish the Class Aves from other animal taxa.
- 2) *Identify* and *understand* general themes in avian ecology and evolution (e.g. communication, mating, foraging, feathers, flight).
- 3) *Appreciate* the conservation issues affecting bird species, populations, and communities.
- 4) *Identify* most Nova Scotia forest bird species (and others) by sight and sound.
- 5) *Generate* relevant and detailed field notations of bird behaviour.
- 6) *Integrate* knowledge of principles and methods into the design and implementation of a research project that effectively addresses a research question about bird ecology.
- 7) *Communicate* scientific ideas effectively both in writing and through oral presentations.

### **Meeting Times**

This class is intense. It starts at 9:05 AM Saturday, June 17, and ends at midnight on Monday, July 3. Expect to be in class all day, every day. The tentative schedule is weather dependent and may require changes on a daily basis, so do not make other commitments for the entire duration of the class. You won't have time for anything else.

### **Field Trips**

You are expected to arrive on time prepared for the field trips as scheduled. Vans will not wait for you. Be prepared for all conditions. We will take one field trip in Halifax the first week, pending suitable weather. We will take a week-long (8-day, 7-night) trip from June 22 – 29. We will stay at an old farmhouse field station in rural Kings County with limited internet for research only. You will need waterproof raingear and warm base layers for our field outings including long johns, rubber boots, and a rain jacket. You are encouraged to bring a sleeping bag and tent if you'd prefer for our nights in the field. See the 'Field Trip Preparation' section for further information.



**Tentative Course Schedule (subject to change due to weather)**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Activities</b>
Jun 17	Sat	9:05- 9:55 10:05-12:30 13:45-16:55	Introductions and class administration Lecture: Avian Evolution & Biodiversity Lab I: Avian Biodiversity & Evolution
18	Sun	9:05-12:30 13:45-16:55	Lecture: Avian Behaviour, Form & Function Lab II: External Anatomy, Form & Function
19	Mon	9:05-12:30 13:45-16:55	Lecture: Avian Behaviour & Ecology Lab III: Internal Anatomy, Form & Function
20	Tue	9:05-12:30 13:45-16:55	Lecture: Avian Conservation Biology Lab IV – Field Methods and Study Design
21	Wed	7:15-11:15  afternoon	Local field trip (meet @ Frog Pond); practice field skills & begin notebook entries; Lab II Part 4 and Lab III Part 4 Work on lab write-ups; pack for trip
22	Thu	morning	Meet at Dal; drive to field station; unpack, settle in; survey habitats on property; birding!
23	Fri	05:00 start	Dawn and dusk chorus walks; survey habitats in local area; practice field methods
24	Sat	05:00 start	Dawn and dusk chorus walks; survey different habitats in local area; practice field methods
25	Sun	05:00 start	Dawn and dusk chorus walks; morning survey at different habitats in local area; work out field project ideas; afternoon finalize projects with teaching team
26	Mon	05:00 start	Begin field projects; revise as necessary with teaching team
27	Tue	05:00 start	Continue field projects; organize and analyze data; practice ID
28	Wed	05:00 start	Continue field projects; organize and analyze data; practice ID
29	Thu	05:00 start	Field ID Quiz (by sound & sight); pack up and return to Halifax by dark
30	Fri	Full day of work time	Analyze project data, prepare presentations, prepare project report; teaching team available for feedback
Jul 1	Sat	Full day of work time	Analyze project data, prepare presentations, prepare project report; teaching team for feedback
Jul 2	Sun	13:30-15:30	Symposium - Students present and discuss group projects; prepare project report
Jul 3	Mon	Full day of work time	Finalize data report; instructor available for feedback; class evaluations, lab write-ups, field notebooks, project reports due

### Course Assessment

Assessments	Marks %	Due dates
Assignments (9 total, of varying weight)	50	July 3 by midnight ADT
“Field” Quiz on species identification	5	June 29
Field Notebook	15	July 3 by midnight ADT
Symposium Presentation	10	July 2
Field Research Project Report	20	July 3 by midnight ADT
<b>TOTAL</b>	<b>100</b>	

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)	

### Field Research Projects and Symposium

Working in teams of 3, you will devise and conduct a field research project on bird ecology in lake, forest and/or field habitats near the field station. Your project should be well-researched and supported by the primary literature; you are expected to consult and acquire relevant resources from the internet during the field week to guide your initial project ideas and provide context for your findings. Each team will summarize the outcomes of their project in a Field Research Project Report (20%), which will be marked for completeness and clarity (see Field Research Project Report below for details). One report will be submitted per group. On the second-last day of class your team will give a 15-min Oral Presentation of your field project, using PowerPoint, and leave an additional 10 min for questions (10% team presentation grade). Everyone on your team will receive the same grade for the Report (20%) and Presentation (10%). Detailed rubrics for the Field Research Project Presentation and Report are provided on Brightspace.

*\* Remember to take lots of photos of your field sites and data collection action (selfies and group shots!) for use in your presentation and report. Also take photos of your field data collection sheets each day, both to have a permanent record in case they're lost or damaged, and to include as examples in your presentation and report. \**

### **Field Research Project Report**

You will report the findings of your field research project in a single document, submitted as a group. Instruction for submission, examples of past projects, and a detailed rubric will be posted on the course website. You will include all of the following elements in your report (these should be easily identifiable but do not need to follow any particular format):

Project Title

Name of Researchers

Timeframe of research (dates and times of data collection)

Project rationale and research question

Specific research objectives

Species studied and relevant ecological details

Study location (with coordinates) and detailed habitat descriptions

Techniques used to collect data and description of data collected

Results (included as appropriate figures, photos, maps, etc)

Discussion and conclusions

Recommendations for future studies

Literature Cited

### **Field Notebooks and Checklist Reporting**

When conducting field studies it is extremely important to document everything you do and see that may be relevant to the data you collect. If you are hired to conduct a study, your employer will want a copy of your field notes. A field notebook is a public record, which means it may be scrutinized closely. It is important to develop the skills of taking careful, accurate, complete, neat, and well-organized notes. Therefore, maintaining your personal field notebook will be an essential part of this class and is worth 15% of your grade. Record all information from field outings and focal observations in real time. Copied over notes are easily identifiable and will NOT be accepted. The field notebook grading rubric can be found on Brightspace. You will submit your notebook on July 3 by midnight. A grading rubric and instructions for submission will be made available on Brightspace.

## **Field Trip Preparation**

### **Mandatory items for our field week**

- binoculars
- field notebook
- bird field guide
- lots of pencils (pens don't work in field notebooks)
- plastic bags to keep things dry
- small daypack to carry your things
- sneakers or hiking boots
- lots of warm layers
- raingear (you absolutely need a waterproof jacket & waterproof pants)
- waterproof footwear (either good hiking boots or rubber boots, absolutely necessary)
- light-coloured long pants (not jeans) that can comfortably tuck into socks (for ticks)
- long socks (ankle socks will not suffice)
- ball cap or other kind of hat with a sun brim
- warm hat & gloves
- re-usable water bottle and tupperware for packed lunches
- sunscreen and insect repellent (vitally important)
- camera/phone and charger
- flashlight or headlamp & extra batteries
- personal toiletries, toothbrush & toothpaste
- soap, shampoo, bath towel
- prescription drugs, aspirin or ibuprofen, allergy medication (e.g. Benadryl)
- basic snack food & special treats for yourself
- laptop (highly recommended; internet is available for e-mail and research, NOT for TV)

### **Optional items**

- personal binoculars – recommended to obtain your own, 8-10 x 32-42, models for <\$200 available at Canadian Tire, Cabela's or Mountain Equipment Co-op
- personal clipboard (very handy)
- extra pillow and preferred blanket for a comfortable sleep
- slippers for wearing inside the field station
- swimsuit and beach towel (unlikely but you never know!)
- bug head-net or jacket (SEASIDE has some head-nets you can check out)
- umbrella (can make rainy field data collection bearable!)
- field guides to other organisms (plants, insects, fungi, marine life) (optional)
- musical instruments for around the campfire
- frisbee, soccer ball, other games
- tent (can be nice for personal space as accommodations at field station will be multiple students sharing per room)

## Course Policies

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To avoid any misunderstanding throughout the course, please note the following policies and information will be enforced by the instructor to ensure transparent, fair and equal treatment for all. Extenuating circumstances are inevitable and you are encouraged to communicate with your instructor if you have any issues or require special consideration at any time during the course. These procedures are in accordance with and/or in addition to the relevant sections in the current University Calendar. If there is any discrepancy, the University Calendar will take precedence.

### **Respectful and consistent participation is mandatory**

You are expected to attend and participate in all class meetings and conduct yourself professionally at all times. If you fail to do so, your grade will be reduced in proportion to the severity of the problem.

### **Assignments and Grading**

All assignments should be typed, well written and spell-checked before submission. To maximize your marks, please use care in ensuring all required components as listed in the assignment instructions or rubrics have been met to the very best of your ability. Although most assignments will have a detailed point distribution for marking, the teaching team have discretionary power to deduct additional points (up to 20%) for overall sloppy writing, poor grammar and spelling, inadequate referencing, glaring omissions, and general inferior quality of the assignment.

Any material submitted for evaluation after the designated deadline will result in marks deducted from your grade at a rate of -1/4 mark per day late. The stress that results from procrastinating on the completion of assignments is avoidable. **PLAN AHEAD & WORK SYSTEMATICALLY.** Your time at Dalhousie should serve to teach you effective time management skills. That being said, please communicate directly with the Instructor with medical issues, deadline concerns, and extension requests. Exceptions will almost certainly be granted, but you must communicate your needs.

As per Senate policy regarding COVID-19, students are not required to provide a medical sick note for missed assessment deadlines.

## University Policies and Statements

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

### **Missed or Late Academic Requirements due to Student Absence**

Information on regular policy, including the use of the Student Declaration of Absence can be found here: [https://www.dal.ca/dept/university\\_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html](https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html)

### **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](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](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](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](mailto:elders@dal.ca)). **Information:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](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](https://www.dal.ca/academics/important_dates.html)

### **University Grading Practices**

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)



## Student Resources and Support

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### Advising

**General Advising** [https://www.dal.ca/campus\\_life/academic-support/advising.html](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](https://www.dal.ca/campus_life/communities/indigenous.html)

**Black Students Advising Centre:** [https://www.dal.ca/campus\\_life/communities/black-student-advising.html](https://www.dal.ca/campus_life/communities/black-student-advising.html)

**International Centre:** [https://www.dal.ca/campus\\_life/international-centre/current-students.html](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](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](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](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](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>