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**Faculty of Science Department of Biology Course Syllabus****BIOL 3622 'Ornithology'****Online Delivery, Summer Term 2021****31 May - June 15****Instructor: Sarah E. Gutowsky****Course email: dalhousie.ornithology@gmail.com**

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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 observational studies for data collection, and identification by sight and sound. Emphasis will be placed on learning and studying the local bird communities around each student's home-base. Field-intensive and skills-focused, with 8 days spent "in the field" in each student's local area.

**Course Prerequisites**

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

**Web-based Platforms**

This course is delivered entirely online. You will need reliable access to a computer and internet. Course materials will be delivered via a variety of web-based platforms, all through the Brightspace course website and email. You must regularly check the course website and your emails for announcements. A detailed daily schedule will be provided each day to guide you through the materials and assignments. All lectures and assignment instructions are pre-recorded (i.e. asynchronous delivery). Daily scheduled live video check-ins (i.e. synchronous delivery) are not mandatory but highly recommended, and participation can contribute to your 'Dedication' grade (see Assessments). Important web-based platforms used in this course include Zoom through [www.zoom.us](http://www.zoom.us) and Panopto through Brightspace.

**Required Supplies/Course Materials**

Because this course is delivered online, there are no auxiliary fees. There is no assigned textbook. You are, however, required to obtain access to mandatory online supplementary course materials, and acquire some equipment and supplies in order to complete the course. Skills-based training and development in identification and behavioural observation will be provided through a series of five online workshops from the Cornell Lab of Ornithology's Bird Academy for a total cost of \$180. For supplies, you will need a clipboard, pencils, and smartphone with capability to install applications. You will need to acquire a Rite in the Rain All-Weather Side-Spiral Notebook of size 4 5/8" x

7" in Universal Pattern (No. 373) or Field Pattern (No. 353N). [On Amazon, the cost is \\$13-20 plus shipping \(link here\)](#). You will also need to acquire a pair of quality midsize binoculars in the price range of \$150-250, ideally 8x magnification power and 42mm objective lens size. They should be rugged and at least water resistant. [See this website for more information about binocular specs](#). Some recommended brands and models available from Amazon include [Bushnell Legend E Series](#), [Bushnell H20](#), [Nikon Prostaff](#), or [Celestron Nature](#). You will need to acquire all of these supplies before Day 5, so consider delivery time when placing your orders.

## **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, interactive online skills-based workshops, daily assignments, and extensive field outings in your local area, 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 synopsis and presentation of results. You will be amazed at how much you will have learned in just over 2 weeks. A walk outside 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 of your local bird species 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.

## **Field Outings**

*Students are expected to follow the guidelines from their local Health Authorities on recommended physical distancing and travel restrictions while undertaking field outings.* When in the field, be sure to use proper foot wear, always be prepared for anything

(additional clothing layers, rain gear, water, snacks, sunscreen, bug repellent, first aid kit), and be aware of potential hazards in your surroundings at all times.

### Course Program

This course is immersive and intense. You will complete a semester of learning in just 16 days; your commitment and time management are paramount to your learning experience and success. You should expect to spend a minimum of **10 hours every day for 16 days** engaging with this course. This is the same expectation as the in-person delivery version. You will be provided with a course schedule overview (syllabus) and a detailed daily task schedule (Brightspace) to keep you organized and on-track. Lectures and assignment demonstrations are pre-recorded and available at all times. Skills-based training and development in identification and behavioural observation will be provided through a series of courses from the Cornell Lab of Ornithology's Bird Academy, for which we have been granted special free access for our course. Live group video check-in sessions with your teaching team will be hosted daily (time to be announced each day). For the duration of the course, your instructor will be available for one-on-one support 24/7 via phone, and will reply to emails within 1 hour during waking hours (9:00 am to 9:00 pm). Daily assignments will be graded by your teaching team and returned within 48 hours to ensure quick feedback. Be assured that your teaching team will be here to support you through every step of the way in your birdy learning adventure.

### Course Schedule Overview

Day	Main Topics	Tasks
1	<ul style="list-style-type: none"> <li>- avian evolution and diversity</li> <li>- becoming acquainted with your local species through eBird</li> </ul>	<ul style="list-style-type: none"> <li>- videos: course introduction, lectures, assignment instructions</li> <li>- Day 1 Assignment (8%)</li> </ul>
2	<ul style="list-style-type: none"> <li>- avian behaviour, form and function: foraging and flight</li> <li>- external and skeletal avian anatomy</li> <li>- bird identification skills</li> <li>- form/function in your local species</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 2 Assignment (8%)</li> </ul>
3	<ul style="list-style-type: none"> <li>- avian behaviour, form and function: breeding and migration</li> <li>- internal avian anatomy</li> <li>- bird identification skills</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 3 Assignment (8%)</li> </ul>
4	<ul style="list-style-type: none"> <li>- avian conservation and management</li> <li>- conservation status of your local species</li> <li>- sounds of your local species</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 4 Assignment (7%)</li> </ul>
5	<ul style="list-style-type: none"> <li>- observing and understanding bird behaviour</li> <li>- observational field methods</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> </ul>



	- birding safely and ethically	- Day 5 Assignment (8%)
6	- bird identification skills - behavioural observation - eBird checklists	- videos: assignment instructions - Day 6 Assignment (4%) - go birding
7	- bird identification skills - behavioural observation - sound recordings	- videos: assignment instructions - Day 7 Assignment (3%) - go birding
8	- bird identification skills - behavioural observation - point count surveys	- videos: assignment instructions - Day 8 Assignment (2%) - go birding
9	- bird identification skills - behavioural observation - field research project design	- videos: assignment instructions - Day 9 Assignment (2%) - go birding
10	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection
11	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection
12	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection - submit Checklist Report
13	- bird identification skills - carrying out a field research project	- go birding - field research project presentation and report writing
14	- bird identification skills - carrying out a field research project	- virtual field ID quiz - field research project presentation and report writing
15	- carrying out a field research project	- field research project presentation and report writing - submit Field Notebook
16	- carrying out a field research project - presenting your own research	- record project presentation with Panopto - provide project presentation feedback to peers - field research report writing

## Course Assessment

Assessments	Marks %	Due dates
Assignments (9 total, of varying weight)	50	Following day by noon ADT
"Field" Quiz on species identification	5	Day 14
Field Notebook & Checklist Reporting	10	Day 12 & 15
Field Research Project Presentation	10	Day 16 by 5pm ADT
Field Research Project Report	15	Day "17" by midnight ADT
Dedication	10	ongoing
<b>TOTAL</b>	<b>100</b>	

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale:

<b>A+</b> (90-100)	<b>B+</b> (77-79)	<b>C+</b> (65-69)	<b>D</b> (50-54)
<b>A</b> (85-89)	<b>B</b> (73-76)	<b>C</b> (60-64)	<b>F</b> (<50)
<b>A-</b> (80-84)	<b>B-</b> (70-72)	<b>C-</b> (55-59)	

## Dedication

Your success in this course relies on your commitment and determination. Most of your work will be independent, requiring careful time management and self-motivation. However, you are part of a class of students who are all overcoming the same challenges and working toward the same objectives. Together, we all need to strive to create a community. This means attending and contributing to our daily live video check-ins. Asking your questions and sharing your observations and experiences during our class meetings will inevitably help both you and your classmates. You are also expected to provide timely feedback for your peers when asked to do so. You should always provide constructive and respectful feedback. Always be aware of your tone; communication can come across with a tone that you did not intend, which can be easily misinterpreted. Your dedication is also reflected in your time management; any assignment submitted after the designated deadline will result in marks deducted from your Dedication grade at a rate of -1/2 mark per day late. At the end of the course, you will be given a grade out of 10 reflecting your overall level of dedication based on meeting attendance, class contributions, and timely assignment submissions. If at any point during the course you would like to discuss your current dedication level status, contact the teaching team at the course email address.

## Field Research Projects and Presentations

You will devise and conduct a field research project on bird ecology in your local area. Your project topic will be of your choosing based on your own observations and interests. On Days 1-8, you will be thinking about potential ideas for your project and conducting preliminary research on your topic. You are encouraged to reach out to the teaching team at any time for feedback on developing your ideas. On Day 9, you will formalize your project plan through a one-on-one video conference meeting with the

teaching team. You will collect your field data over 3 days (Days 10-12). Days 13-15 will be spent preparing your project presentation and report. On Day 16, you will present your project and results with a PowerPoint presentation via Panopto (further instructions will be posted on Brightspace). Your presentation should include the same elements as your report, and should be no less than 12 minutes and no more than 20 minutes long. Each student will be assigned to a discussion group of 3-4, who will watch each other's presentations and provide questions and feedback (as part of the Dedication grade). You will submit your final Field Project Report one day after the completion of the course, on Day "17" by midnight ADT. The basic requirements for your Field Research Project Report are found below. 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 (selfies too!) 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. Instruction for submission 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 Researcher
- 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 10% 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 an electronic version of your notebook to Brightspace on Day 15. As an appendix to your field notebook, you will also submit an eBird Checklist through the eBird smartphone app for every field outing, and a final eBird Checklist Report on Day 12. Further details and instructions for submissions will be made available on Brightspace.

**Field Quiz on species identification**

On Day 14, you will complete a “field” quiz on identification of your local species, worth 5% of your final grade. Beginning on Day 1, you will start to learn to identify the 100 most common species in your area. You will compile a list, study your species’ vocalizations, and focus on species from your list in each assignment. You will work at building your identification skills and recognition of your local species by sight and sound over the duration of the course. Based on the species which you encounter during your field week, your teaching team will create a personalized “field quiz” to be conducted over live video conferencing. Your examiner will share images and play sounds from your species list, and you will identify them using only your field guide (visuals from book or app) and field notebook. Your designated quiz time will be assigned on Day 13, and will last a maximum of 40 minutes. It is meant to be fun; you’ll be shocked at just how much you’ve learned!

## **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 Dedication 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 Dedication grade at a rate of -1/2 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.

As per Senate policy regarding COVID-19, students are not required to provide a medical sick note for missed assessment deadlines. Because this course is an intensive format with a small class size, please communicate directly with the Instructor with medical issues, deadline concerns, and extension requests.



## 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**

As per Senate decision instructors must not require medical notes of students who must miss an academic requirement, including a final exam, for courses offered during spring or summer sessions 2020 (until Aug 31, 2020).

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**

### **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>