

## Ornithology (Biology 423 I)

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### Course description:

The biology of birds, including their evolution, systematics, anatomy, ecology, and behaviour. Aspects of avian morphology, such as plumages, internal anatomy, and adaptations for feeding and locomotion, will be examined in the lab. Identification, behaviour, and natural history of Ontario birds will be emphasized.

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**Professor:** Dr. Janice M. Hughes

**Contact information:** Email: [janice.hughes@lakeheadu.ca](mailto:janice.hughes@lakeheadu.ca)

Please note: I attend to my email regularly from Monday to Friday during the academic year so I will typically respond to your messages on a same day basis during the week. However, I may not open emails that have been sent from accounts other than your university account (e.g., hotmail) so use your *lakeheadu.ca* email for all of your messages.

### Office hours:

Office hours through Zoom are available by appointment. I will also be offering one to two hours of office hours on most weeks during the term through Zoom. Please see the schedule below.

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### Learner goals:

Upon satisfactory completion of this course, the student will be able to:

1. Describe the origins and evolution of birds, and identify their relationships to their closest living and nonliving relatives.
2. Articulate current views of avian systematics, conservation, and biodiversity.
3. Describe how feathers, skeletons, and physiology contribute to the form and function of birds as volant vertebrates.
4. Discuss how birds are adapted to fly, migrate, find food, attract mates, and raise their young.
5. Understand the means by which birds communicate visual and vocally, and comprehend the purpose of this communication.
6. Understand avian demographics, and describe how these measures are important in avian conservation.
7. Predict aspects of the natural history of birds from observations of their morphology.

## **Lectures:**

1. All lectures will be delivered remotely at the scheduled time (see Lakehead Timetable). Attendance is highly recommended. Lecture notes will not be provided, and the PDFs of slides only show a brief outline of the course material. The things that I say in class are important!
2. There is no textbook; however, extensive resources are available on the D2L course website, including PDF of lecture slides, glossaries, bird checklists, and on-line study aids.
3. There are two online lecture tests that total 40% of the course grade. They will occur during regular class time, and are not cumulative. There is no final exam during the December final exam period. Please remember that you must do these online tests alone (no help or collaboration!). Collaboration on tests is considered cheating. Also, cutting and pasting, copying, or downloading answers from another source (e.g., Wikipedia) is considered plagiarism. The minimum penalty for plagiarism or collaboration on the tests will be a mark of zero on the test. You can find more information on the D2L course webpage.
4. If you miss a test due to illness or other valid reason, you must inform me by email within 24 hours of the scheduled test time; otherwise, you will not be able to write a make-up test.

## **Labs:**

1. All lab material (including the lab manual) will be posted to D2L, and will provide practical components of the course to support the topics covered in lectures. There are no scheduled labs but you will be responsible for all material found in the lab manual and posted in the supplementary lab materials on D2L.
2. There are three online lab quizzes (one per chapter of the lab manual) that will occur during the scheduled lab time. Lab quizzes begin promptly at 11:30. You will not be able to write the lab quizzes at other times, and any questions answered after the quizzes close will not be marked. More information regarding these quizzes will be provided in class.

## **Assignments:**

1. You will be required to post five substantive commentaries (about 250 words each) on an aspect (such as behaviour or life history) of a bird species that you find interesting. Each week there will be a list of avian orders (see page 6) from which you can choose a species for your commentary, but you only need to make a total of five bird species posts during the term. Your commentaries do not need to have formal citations; however, you must include numbered hyperlinks at the end of your post to indicate where you sourced your material, and the text must include the hyperlink numbers where the relevant sources were used.

You can choose to post on any five weeks, but you may not make more than one post in any given week. All posting weeks will be opened at the beginning of term if you want to get a head-start but please note that they will be closing at 11:59 pm Sunday at the end of their specified week. Don't leave them all to the last minute! A marking rubric will be posted on D2L. Please remember that there is zero tolerance for plagiarism in this course. Plagiarism

also includes copying another student's writing or ideas! The minimum penalty for plagiarism on the bird posts will be a mark of zero on the assignment.

- The avian conservation class discussion grade comprises an "in-class" participation and a follow-up point-of-view written paper. The class discussion will be held remotely via Zoom during one of the scheduled lab times. More information regarding the assignment of groups and times for the discussion will be provided later.

The point-of-view paper must be handed into the Dropbox on the D2L course website (PDFs only please!). More information will be provided in class. You can also find more information about this assignment and a marking rubric on D2L. The minimum penalty for plagiarism on the point-of-view paper will be a mark of zero on the assignment.

### **Additional information:**

- I am committed to providing a learning environment that will give all students the best possible chance of success in this course. Please drop into the Zoom office hours (or make an appointment) if I can be of assistance.
- For students registered with Student Accessibility Services, I can offer many solutions for your recommended accommodations. Please make an appointment to discuss these options.
- Please note that I have a zero-tolerance policy on cheating and plagiarism in this course. The minimum penalty for cheating or plagiarism will be a mark of zero on the test or assignment, and a report will be sent to the Dean. Not reading this is not an excuse for not knowing it!

### **Grading scheme:**

Midterm test	October 22	15%
Final test	November 26	25%
Bird species posts	Various (see schedule)	4% each (20% total)
Lab quiz 1	October 5	7%
Lab quiz 2	November 2	7%
Lab quiz 3	November 30	8%
Class discussion	November 16	3%
Point-of-view paper	December 7	15%

**Lecture Topic Outline**

September 8		Introduction to the course
September 10	Unit 1	Avian origins
September 15	Unit 2	Avian classification
September 17	Unit 3	Feathers: Structure, growth, molt, and plumage
September 22	Unit 4	Flight mechanics
September 24		
September 29	Unit 5	Physiology and adaptation
October 1	Unit 6	Migration and navigation
October 6	Unit 7	Feeding: Apparatus and strategies
October 8	Unit 8	Visual communication
October 13/15		<b>Study Week (no classes)</b>
October 20	Unit 8 con't	Visual communication
October 22		<b>Midterm Test (Units 1-7)</b>
October 27	Unit 9	Vocal communication
October 29	Unit 10	Social behaviour
November 3		
November 5	Unit 11	Breeding systems
November 10	Unit 12	Reproductive anatomy and physiology
November 12	Unit 13	Nests and parental care
November 17		
November 19	Unit 14	Growth and development
November 24	Unit 15	Demographics: Populations and communities
November 26		<b>Final Test (Units 8-15)</b>
December 1/3		<b>No Classes</b>

**Laboratory Topic Outline**

September 14	Office hours on Zoom (11:30-12:30)
September 21	Office hours on Zoom (11:30-12:30)
September 28	Office hours on Zoom (11:30-12:30)
October 5	<b>Lab Quiz 1: Form and function: Feathers and flight</b>
October 12	<b>Study Week</b>
October 19	Office hours on Zoom (11:30-12:30)
October 26	Office hours on Zoom (11:30-12:30)
November 2	<b>Lab Quiz 2: Form and function: Feeding</b>
November 9	Office hours on Zoom (11:30-12:30)
November 16	<u>Class discussion:</u> Avian conservation
November 23	Office hours on Zoom (11:30-12:30)
November 30	<b>Lab Quiz 3: Form and function: Everything else</b>
December 7	Point of view paper due 11:59 pm on D2L

## Weekly Bird Orders for Assignment Posts

**Note:** This taxonomic order is based on a well-supported phylogenetic analysis of Class Aves by Jarvis et al. (2014), and is available at [https://en.wikipedia.org/wiki/List\\_of\\_birds](https://en.wikipedia.org/wiki/List_of_birds). Use the links on this page to take you to a list of species within each order. You can choose to write your post on any species on the appropriate list. Some of the smaller avian orders have been omitted from this assignment.

September 8	<a href="#">Struthioniformes</a> , <a href="#">Rheiformes</a> , <a href="#">Casuariiformes</a> , <a href="#">Apterygiformes</a> , <a href="#">Tinamiformes</a>
September 14	<a href="#">Galliformes</a> , <a href="#">Anseriformes</a>
September 21	<a href="#">Podicipediformes</a> , <a href="#">Phoenicopteriformes</a>
September 28	<a href="#">Columbiformes</a> , <a href="#">Caprimulgiformes</a>
October 5	<a href="#">Cuculiformes</a> , <a href="#">Musophagiformes</a>
October 12	<b>Study Week</b>
October 19	<a href="#">Gruiformes</a> , <a href="#">Charadriiformes</a>
October 26	<a href="#">Gaviiformes</a> , <a href="#">Sphenisciformes</a> , <a href="#">Procellariiformes</a>
November 2	<a href="#">Ciconiiformes</a> , <a href="#">Suliformes</a> , <a href="#">Pelecaniformes</a>
November 9	<a href="#">Accipitriformes</a> , <a href="#">Strigiformes</a> , <a href="#">Trogoniformes</a>
November 16	<a href="#">Bucerotiformes</a> , <a href="#">Coraciiformes</a> , <a href="#">Piciformes</a>
November 23	<a href="#">Falconiformes</a> , <a href="#">Psittaciformes</a>
November 30	<a href="#">Passeriformes</a>

Jarvis, E.D., et al. (2014). "[Whole-genome analyses resolve early branches in the tree of life of modern birds](#)". Science. 346 (6215): 1320–1331. doi:10.1126/science.1253451.