BIOD48: Ornithology
Fall 2020

Person	Role	Contact	Office Hours
Professor Jason Weir	Instructor	jason.weir@utoronto.ca	Monday 1:00 to 2:00pm via zoom
Vanessa Luzuiraga-Aveiga	TA (Tutorial projects)	vanessa.luzuriagaaveiga@mail.utoronto.ca	NA
Else Mikkelsen	TA (Identification)	else.mikkelsen@mail.utoronto.ca	NA

OFFICE HOURS
Prof. Weir's office hours from 1 to 2 pm Mondays on every Monday until Nov 30 except for week of Sept 28 when no office hours will be held.

- **Zoom link:** https://utoronto.zoom.us/j/96460517075
- **Passcode: 397747**

CONTACTING US
When e-mailing, please use the following subject line "BIOD48". E-mails that do not include this subject line will not be answered. You can generally expect a reply from us within 1 work day. Questions pertaining to lecture content and tutorial Assignment 5 should be sent to Prof. Weir, all other tutorial assignments to Vanessa and bird ID to Else.

COURSE EVENTS
Lectures: Thursday 12:00pm – 1:00pm
Tutorials: 9:00am– 12:00pm (all tutorials will commence via zoom)

COURSE OVERVIEW
The course will have two main components: 1) lectures will cover avian ecology, evolution, physiology and behavior, and will include guest lectures from several ornithologists who will discuss their research; 2) tutorials will introduce students to the identification of birds in Ontario; basic field observation skills; and bird song analyses. Students will engage in three field trips involving bird watching in three different habitat types. This course aims to impart practical skills that may be useful for obtaining employment as a biologist.

COURSE PREREQUISITS
BIOB50 and BIOB51 & one of the following: BIOC50, BIOC54, or BIOC61. All students are expected to have a basic understanding of ecological and evolutionary processes.

REMOTE LEARNING SETUP
This course is only offered remotely via internet in Fall 2020. You need:

1) a computer (best) or phone (screen probably too small) with access to the internet to stream lecture content and access slide handouts etc.
2) a reasonably fast computer (preferably with Windows 10 operating system) with good internet connection for tutorials. If you have poor internet connection you will not be able

to effectively interact with your instructors during tutorials. This computer must have access to Microsoft Word, Excel, PowerPoint and one freely available piece of software for working with bird songs (see Tutorials below).

If you lack a good internet connection, you may come to campus and use one of the available campus computers (including those from the computer lab in BV 598) which will have required software installed and access to high bandwidth internet. To come to campus you must follow current UTSC safety procedures during the pandemic.

FIELD TRIPS AND OUTDOOR EVENTS

This course has a field component requiring three hours of field observation. During the Fall 2020 students must fulfill the field requirement without being accompanied by the course instructor or TA's. Outdoor activities include bird watching in three different types of habitat (e.g. forest, marsh, meadow/ forest edge), with a minimum of 1 hour spent in each habitat type. Field trips should only be performed in public parks or on private property with the owner's permission. It is the student's responsibility to follow reasonable safety precautions (e.g. staying away from cliff edges, avoiding wild mammals, obeying local by-laws, staying away from poisonous plants). Due to safety issues students should not perform these field trips alone but should be accompanied by a partner. In Fall 2020 due to the pandemic crisis, students should be certain to perform field trips with a partner who is a family member or a member of their social bubble if social bubbles are legally permitted at the time in question. Otherwise, the student and their partner should agree to remain two meters or more apart while engaging in field work and transportation to and from the field site and should wear masks as an extra precaution or if maintaining a safe 2 meter distance from other hikers is not possible. If it is not legal in your jurisdiction to walk in local parks due to pandemic lock downs, then please contact the course instruction for alternatives to field work. Proper clothing appropriate to the season should be worn during all outdoor activities. Long pants and a light jacket should be ideal for activities during September and early October. Warmer clothing should be worn during late October and November. Only tennis or hiking style shoes (no sandals or dress shoes) should be worn, while winter boots should be worn during days with snow. Students should always carry a cell phone on them and should bring with them any medication they may require for medical conditions (e.g. bee allergies). <u>All students will need to sign a legal release form in order to participate in outdoor activities. Students requiring special accomodations should contact the instructor personally.</u>

EQUIPMENT

Students must have access to a pair of binoculars for field trips and a field guide to the birds of their local region (e.g. *The Sibley Field Guide to Birds of Eastern North America*). Both items can be borrowed (binoculars from a fiend, field guides from a library). Reasonable quality binoculars can be purchased for $50 to $120, but cheaper low-end binoculars will not serve you well. To make the course affordable, the usual textbook will not be required this year. The money saved from buying a textbook can instead be spent on a pair of binoculars which every senior-level biology major should own anyway. To obtain full grades for your bird journal and field trips you must take a photo of yourself in each of the three habitats you will visit while wearing a pair of binoculars and holding your field guide.

TEXTS AND READINGS

Suggested Lecture Text: F. Gill. *Ornithology 3rd Ed.* Freeman. (Most suggested readings are from this text. The text is not required this year, but strongly beneficial. Note, there is a newer fourth edition, but the page numbers listed here are specific to the third edition.)

Suggested Online Readings: For select lectures, I suggest online readings (that include videos) from the website of Gary Ritchison:
http://people.eku.edu/ritchisong/ornitholsyl.htm

Field Guide: Sibley. *The Sibley Field Guide to Birds of Eastern North America*. 2003. (This text or a comparable field guide is essential for tutorials and field excursions. You must have a copy. You can buy from any bookstore or online.) Alternatively, you can use another field guide that covers eastern North America as well (other good guides are the Sibley guide and National Geographic guide). If in Fall 2020, you are based out of a region in western North America or outside of North America, please contact the course instructor for suggested alternatives, as a guide to eastern North American birds will not cover the species in your local area and you instead should purchase or borrow a field guide to the region you are in for field trips. However, the bird ID sections of this course will cover birds of Toronto region regardless of your personal location and for this reason access to a field guide to birds that covers Eastern North America will still be important.

STUDY TOOLS

Quercus: On Quercus you will find all the information for the course including a copy of this syllabus with an outline of the course content, lecture slides, lecture video recordings, tutorial handouts, tutorial datasets and announcements.

Lecture slides: Lecture slides will be posted on the course homepage as PDF files the evening before lecture (generally by 6pm Wednesday for a Thursday lecture). These may be printed and used to augment your note taking. You WILL still need to take notes, but printouts of lecture slides will mean that you do not have to write down everything during lecture.

Attendance at lectures: There is only a web option for this course. Course lectures will be posted as videos that can be live streamed. These will be available for a period of just under a week from 11:45 am on Thursday to 6pm the following Wednesday.

Tutorials: Tutorials will comprise three elements: 1) learning to identify approximately 145 of the most common species in Toronto area, 2) observing wild birds while in the field and watching online video cams of active feeder stations, and 3) six tutorial assignments. Tutorials will always have a zoom component starting at 9:10am sharp on Fridays. The first hour of tutorial will include a bird identification quiz (except for September 11) followed by a bird ID workshop. Depending on the day, some tutorials will then proceed to a zoom-led tutorial assignment while other days students will be expected to instead go to the field and birdwatch. Certain tutorial days also have a video instructional session that students should watch. Details of the events happening each Friday are shown in the Tutorial outline below. Tutorials are mandatory and make up the bulk of your grade. You will do poorly in this course if you skip them!

TUTORIAL ZOOM LINKS:

Every tutorial will begin on zoom with a live quiz at 9:10AM EST which is mandatory. To perform the quiz, you must be logged into zoom with video and audio on, and perform the quiz on Quercus in the allotted 10-minute time frame. Late quizzes will not be possible. Bird ID tutorials will be held after the quiz on zoom and these will be followed on most tutorial days by a tutorial assignment with help offered live via zoom (see tutorial schedule below).

- **Tutorial Zoom link:** https://utoronto.zoom.us/j/97274147595
- **Passcode: 753985**

EVALUATION

Test	Covers	Proportion of Final grade
Lecture final*	All lectures	25%
Tutorial final*	Comprehensive final of tutorial material (including identification)	6%
Ten tutorial identification Quizzes	Bird ID	10%
ID Comprehensive Test		9%
Tutorial assignments • Assignment 1: Bird Cam • Assignment 2: ebird • Assignment 3: Soundlab1 • Assignment 4: Soundlab2 • Assignment 5: Bird Journal • Assignment 6: Sound Scape		50% • 5% • 5% • 5% • 25% • 5% • 5%

*Both the Lecture and Tutorial Finals will be combined as a single exam given during exam week in December. The Lecture part will come first and the Tutorial part will follow.

Lecture final: The final lecture will cover all material presented during lectures. The format will be announced before the last day of class on Dec 7.

Tutorial final: This will ask you to apply your knowledge and skillsets obtained in tutorials to novel circumstances. It will not involve species ID.

Tutorial identification quizzes: Students will be responsible for learning to identify about 145 of the most common birds of the Toronto area. Students will be presented with tips on identifying 10 to 20 species during 10 identification workshops. During the following tutorial students will be quizzed on the identification of species covered during previous tutorial sessions. Each quiz will contain 10 species, some of which may be from previous tutorial sessions where applicable (i.e. quizzes are cumulative).

ID Comprehensive Test: This will test student knowledge on the identification of all 145 species learned in tutorial and will be held in our last tutorial session.

Missed Exams: Students unable to attend a tutorial quiz, exam, or tutorial component for religious reasons must notify the instructor by e-mail as soon as possible in order to make

alternate arrangements. Students unable to attend these events due to sickness must contact the instructor by e-mail within 3 working days of the test, must present the instructor with a valid doctor's note and must complete a UTSC medical certificate (available via the registrar's website) which confirms their illness, and medical attention at the time of the exam.

Students who miss the Lecture and Tutorial final exams must petition to the registrar**.**

ACADEMIC MISCONDUCT

Academic misconduct is a serious offense and will be treated as such. By taking this course you agree to act with academic integrity. This means you will:

1) Generate all your own data for tutorial Assignments. You may work with fellow students during tutorial assignments and I encourage collaboration in working through assignments. Collaboration does not mean having someone else generate data for you. All students must produce their own data and write their own assignments
2) Not use any study aids during identification Quizes and Exams: you will not consult field guides, notes (electronic or printed) and that you are not obtaining help on quizzes from another person.

For full details of the University of Toronto's plicies on Academic Integrity please see: https://www.utsc.utoronto.ca/aacc/academic-integrity

COPYRIGHT AND PRIVACY

Recording each other and myself (via video or audio capture) in a class requires consent. Live online sessions (e.g. via zoom or similar platform) may not be recorded as doing so would require the consent of all participants. In this course consent is not provided. Likewise, video recordings of lecture and tutorial components may only be streamed during their designated time period and may not be recorded under any circumstance. All course content is copyrighted by Jason Weir. Lecture slide handouts, videos and tutorial files or screen captures of these may not be posted under any form on the web or other public network. Doing so may result in legal action being taken. What you may do:

1) Download and/or print a personal copy of lecture slide handouts and tutorial documents for personal use only
2) Stream video content for personal viewing only
3) Any other use of course materials is prohibited without direct consent of Jason Weir

LECTURE TOPICS AND READINGS (subject to change)

Lecture	Date	Lecture title	Video length (Hours:Minutes)	Gill textbook reading	Ritchison suggested reading
0	10-Sep	Intro to course	Via zoom		
1	17-Sep	Adaptive radiation and the diversity of birds	00:45	Chapter 1 Pg. 3-20	
2	24-Sep	Feathers	00:56	Chapter 4	
3	1-Oct	Flight	00:57	Chapter 5	Bird Flight I, Bird Flight II

4	8-Oct	Evolution of flight and origin of birds	00:44	Chapter 2 Pg. 5-39	
5	22-Oct	Migration and Navigation	01:05	Chapter 10	
6	29-Oct	Bird vocalizations	00:59	Chapter 8	
7	5-Nov	Biogeography: Latitudinal Diversity Gradients in Birds	00:35		
8	12-Nov	Mating Systems and Sexual Selection	00:49	Chapter 12, 13	Mating Systems
guest	19-Nov	Ornithology Guest Lectures (PhD students Sean Anderson and Vanessa Luzuriaga-Aveiga)			
guest	26-Nov	Ornithology Guest Lectures (PhD student Else Mikkelsen and Postdoctoral Fellow Jordan Bemmels)			
9	3 Dec	Sex, nests, and young Part2	01:01	Chapter 14, 15, 16	Avian Reproduction I, II, III

TUTORIAL SCHEDULE

Tutorial Key:

ID QUIZ
ID WORKSHOPS
ASSIGNMENTS
ASSIGNMENTS DUE
EXAMS
OTHER

Tutorial	Date	Tutorial Components
1	11-Sep	1) **INTRODUCTION TO TUTORIALS**: [9:10AM EST live via zoom with video link to follow] 2) **ID WORKSHOP 1**: Intro to bird Identification (~40 min) [live via zoom with video link to follow] 3) **VIDEO INSTRUCTION 1**: Introduction to binoculars (11 min) [via video link]
2	18-Sep	1) **ID QUIZ 1**: Intro to bird Identification [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 2**: Learning bird families PART1 [live via zoom] 3) **ASSIGNMENT 1**: Live camera bird identification NOTE: This assignment requires you to observe birds at live cameras that occur in the Central and Eastern Time Zones of North America. You will not be able to observe birds once the sun sets in these time zones. You must thus gather data while birds are still active in these time zones. 3) **ASSIGNMENT 1 DUE:** must be completed before midnight on Quercus
3	25-Sep	1) **ID QUIZ 2**: Learning bird families PART1 [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 3**: Learning bird families PART2 [live via zoom] 3) **ASSIGNMENT 2**: Bird watching in three habitats. [into via video link] [bird watching without instructors] • First watch 12 minute instructional video. Then perform the three field-based bird watching trips prior to due date on Nov 27. You could perform one or two of these today for example. Keep notes in Field Book and submit sightings to ebird (see next weeks tutorial) and turn these in by midnight of Nov 27.
4	2-Oct	1) **ID QUIZ 3**: Non-passerine families [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 4**: Flycatchers, vireos, jays, swallows, nuthatches, wrens, kinglets [live via zoom] 3) **ASSIGNMENT 3**: ebird [student works without instructors] • Read "Introduction to Assignment 3" for instructions • sign up for your own ebird account • now complete the 2-hour ebird online course that teaches you about ebird and email Vanessa the course certificate once complete • begin to enter your bird watching sightings into ebird that you see during the three ASSIGNMENT 2 field trips. 4) **ASSIGNMENT 3 DUE:** course certificate must be emailed to Vanessa before midnight
5	9-Oct	1) **ID QUIZ 4**: Flycatchers, vireos, jays, swallows, nuthatches, wrens, kinglets [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 5**: Sparrows, thrashers, Cardinalidae, thrushes [live via zoom] 3) **ASSIGNMENT 4**: Sound Lab 1 [live via zoom] 4) **ASSIGNMENT 4 DUE:** must be completed before midnight on Quercus

		5) **VIDEO INSTRUCTION 2**: Introduction to catching birds with nets (~ 15 min)
6	23-Oct	1) **ID QUIZ 5**: Sparrows, thrashers, Cardinalidae, thrushes [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 6**: Woopeckers, finches, Icteridae [live via zoom] 3) **ASSIGNMENT 5**: Sound Lab 2 [live via zoom] [four week exercise]
7	30-Oct	1) **ID QUIZ 6**: Woopeckers, finches, Icteridae [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 7:** Warblers [via zoom] 3) **ASSIGNMENT 5:** Sound Lab 2 [live via zoom] [four week exercise]
8	6-Nov	1) **ID QUIZ 7**: Warblers [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 8**: Raptors, owls, nighthawk [via zoom] 3) **ASSIGNMENT 5**: Sound Lab 2 [live via zoom] [four week exercise]
9	13-Nov	1) **ID QUIZ 8**: Raptors, owls, nighthawk [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 9**: shorebirds, rails, grouse [via zoom] 3) **ASSIGNMENT 5:** Sound Lab 2 [live via zoom] [four week exercise] 4) **ASSIGNMENT 5 DUE:** Please email Prof. Weir your paper reports for Assignment 5 by midnight. Late assignments will be docked 10% per calendar day and will not be accepted if more than 4 days late.
10	20-Nov	1) **ID QUIZ 9**: shorebirds, rails, grouse [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 10**: Swimming birds [via zoom] 3) **ASSIGNMENT 2**: You can use this time to complete your field bird watching if not already done.
11	27-Nov	1) **ID QUIZ 10**: Swimming birds [9:10AM EST live via zoom and quercus] 2) **ID WORKSHOP 11**: Comprehensive review and study session [only via zoom – no video] 3) **ASSIGNMENT 6:** Sound scape lab [live via zoom] 4) **ASSIGNMENT 6 DUE:** must be completed before midnight on Quercus. 5) **ASSIGNMENT 2 DUE:** Please email Vanessa your paper reports for Assignment 2 by midnight.
12	4-Dec	1) **COMPREHENSIVE ID TEST**: ID test covering all bird species [written response, not multiple choice] [9:10 AM EST live via zoom and Quercus]