

BIOD48: Ornithology

| Person | Role | Contact | Office Hours |
|----------------|-------------|---------------------------------|-----------------------------|
| Professor Weir | Instructor | jason.weir@utoronto.ca | Monday 1:00 to 2:00pm SW549 |
| Else Mikkelsen | TA | else.mikkelsen@mail.utoronto.ca | NA |

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.

COURSE EVENTS

Lectures: HW 408 Thursday 12:00 – 1:00pm

Tutorials: BV 498 Friday 9:00 – 12:00am (many tutorials involve outdoor activities, but tutorials will commence in BV 498 unless otherwise notified)

COURSE OVERVIEW

The course will have two main components: 1) lectures will cover avian ecology, evolution, taxonomy, physiology, behavior, and conservation, and will include guest lectures from several Canadian ornithologists who will discuss their research; 2) tutorials will introduce students to the identification of birds in Ontario; point counts and bird banding; and bird song analysis. Regular field trips during tutorial will involve bird watching and field projects along the trails near UTSC and nearby sites in the Toronto area, participation in a census of migratory raptors along the Scarborough bluffs, observation of bird banding, and a visit to the ornithology collections at the Royal Ontario Museum. 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.

FIELD TRIPS AND OUTDOOR EVENTS

This course has a large outdoor field component. Outdoor activities include bird watching and mist netting activities on campus, as well as several field trips off campus. 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. To ensure safety, all students will work together in groups of 3 or more during outdoor activities. If group members are absent and you are the sole group member present, you must inform myself or a TA as you must have at least 2 people present in each group at all times for safety. All students will need to sign a legal release form in order to participate in outdoor activities both on and off campus. Students with special needs or considerations (i.e. bee allergies etc.) should contact the instructor personally.

Transportation to off-campus field trip destinations (all of which occur near Scarborough or the downtown Toronto region) will require using local public transit and/or carpooling with other

classmates and the instructor (to be arranged in class), and may require that students leave for the field site as early as 8am in order to arrive by 9 am. Every effort will be made to arrive back on campus by 12:00pm, but given local traffic conditions, this may not always be feasible.

EQUIPMENT

10 pairs of binoculars will be provided to students (at least one per group of three). Students are encouraged to bring their own binoculars.

TEXTS AND READINGS

Lecture Text: F. Gill. *Ornithology 3rd Ed.* Freeman. (Most required readings are from this text)

Suggested Online Readings: For select lectures, I suggest online readings (that include videos) from the website of Gary Ritchison:

<http://people.eku.edu/ritchison/ornithosyl.htm>

Field Guide: Sibley. *The Sibley Field Guide to Birds of Eastern North America.* 2003. (This text is essential for tutorials and field excursions. You can buy from any bookstore or online.)

STUDY TOOLS

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

Lecture slides: Lecture slides will be posted on the course homepage as PDF files the evening before lecture. These may be printed, brought to class 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 no web option for this course. Looking over the lecture slides in combination with the reading materials listed at the end of each lecture handout should provide you with the information you need to know if a lecture is missed, but this will require more work than simply attending lectures.

Tutorials: Tutorials will comprise 4 elements: 1) learning to identify approximately 145 of the most common species in Toronto area, 2) observing wild birds while bird watching, mist netting, and during field trips to a migratory raptor monitoring site, and a bird banding site, 3) a visit to the collections at the Royal Ontario Museum, and 4) four tutorial assignments. Assignments will cover analyses of bird vocalizations and bird censusing methods. Tutorials will commence in BV 498 at 9AM. Tutorials are mandatory. You will do poorly in this course if you skip them.

EVALUATION

| Test | Covers | Proportion of Final grade |
|--|---|---------------------------|
| Lecture final | All lectures | 35% |
| Six tutorial identification Quizzes | Bird ID | 10% |
| Tutorial final | Comprehensive final of tutorial material (including identification) | 20% |
| Tutorial assignments and participation | Four assignments, field trip participation | 35% |

Lecture final: The final lecture will cover all material presented during 12 lectures as well as required readings from several chapters of the textbook which will not be covered in class.

Tutorial identification quizzes: Students will be responsible for learning to identify 145 of the most common birds of the Toronto area. Students will be presented with tips on identifying 20 to 25 species during 6 identification tutorials. During the following tutorial (excluding days with off-campus field trips) students will be quizzed on the identification of species covered during previous tutorial sessions. Each quiz will contain 10 species, 8 of which will be from the previous tutorial session and 2 of which will be from earlier tutorials where applicable.

Tutorial final: The tutorial final will test student knowledge on the identification of all 145 species learned in tutorial as well as information covered in tutorial assignments, bird watching excursions (i.e. mist netting and blood sampling details) and field trips. This exam will be given on the same day as the Lecture Final.

Missed Exams: Students unable to attend a tutorial quiz, exam, or field trip 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.

LECTURE TOPICS AND READINGS (Subject to change given uncertainty of when guest speakers will be present)

| Lecture | Date | Lecture title | Gill textbook reading | Ritchison suggested reading |
|---------|---------|---|--|-------------------------------|
| 1 | 5-Sep | Adaptive radiation and the diversity of birds | Chapter 1 Pg. 3-20 | |
| 2 | 12-Sep | Feathers | Chapter 2 Pg. 39-41 | |
| 3 | 19-Sep | Mechanics of flight | Chapter 5 | Bird Flight I, Bird Flight II |
| 4 | 26-Sept | Evolution of flight and origin of birds | Chapter 2 Pg. 5-39 | |
| 5 | 3-Oct | Migration and Navigation | | |
| 6 | 10-Oct | Bird vocalizations | Chapter 2 Pg. 5-39 | Intro to Birds, Bird Flight I |
| 7 | 24-Oct | Mating Systems and Sexual Selection | Chapter 12, 13 (the latter is testable material even though only briefly covered in lecture) | Mating Systems |
| 8 | 31-Oct | PhD students Sean Anderson and Vanessa Luzuriaga-Aveiga | TOPIC: estimating rates of evolution in bird bills and songs | |
| 9 | 7-Nov | Guest Lecture: | TBA | |
| 10 | 14-Nov | Sex, nests, and young Part 1 | Chapter 15, 16 (the latter is testable material even though only briefly covered in lecture) | Avian Reproduction I, II, III |
| 11 | 21-Nov | PhD student Else Mikkelsen and Postdoctoral Fellow Jordan Bemmels | TOPIC: Using genomics to address speciation in birds | |
| 12 | 28 Nov | Sex, nests, and young Part2 | Chapter 15, 16 (the latter is testable material even though only briefly covered in lecture) | Avian Reproduction I, II, III |

TUTORIAL SCHEDULE (subject to change due to weather etc.)

| # | Date | Event | Event details | Identification Series | Lab Quiz | Guided Birdwatching | Outdoors event ¹ |
|----|---------|-------------------|---|-----------------------------|----------|---------------------|-----------------------------|
| 1 | 6-Sep | Tutorial (BV 498) | Introduction to class; Bird watching at UTSC | non-passerine landbirds | x | yes | yes |
| 2 | 13-Sep | Tutorial (BV 498) | Introduction to Point Count Surveys; Bird watching at UTSC. Possibly bird netting. | Raptors, owls, nighthawk | quiz | yes | yes |
| 3 | 20-Sep | Field Trip 1 | Field Trip to Tommy Thompson Park | x | x | yes | yes |
| 4 | 27-Sept | Tutorial (BV 498) | Sound lab 1 (intraspecific geographic variation) | passerines 1 | quiz | yes | yes |
| 5 | 4-Oct | Field Trip 2 | Migratory raptor field trip | x | x | yes | yes |
| 6 | 11-Oct | Tutorial (BV 498) | Birdwatching at UTSC followed by Sound lab 2 (song divergence in sympatry) Part 1 | passerines 2 | quiz | yes | yes |
| 7 | 25-Oct | Tutorial (BV 498) | Sound lab 2 (song divergence in sympatry) Part 2 | passerines 3 | quiz | yes | yes |
| 8 | 1-Nov | Tutorial (BV 498) | Birdwatching at UTSC followed by Sound lab 2 (song divergence in sympatry) Part 2 | shorebirds | quiz | yes | yes |
| 9 | 8-Nov | Tutorial (BV 498) | TBA | waterbirds | quiz | yes | yes |
| 10 | 15-Nov | Tutorial (BV 498) | Bird watching at UTSC followed by Point Count Lab | | x | x | no |
| 11 | 22-Nov | Field Trip 3 | ROM Field Trip | | x | x | No |

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|----|--------|---|-------|------------------|------------------|---|----|
| | | | | | | | |
| 12 | 29-Nov | Tutorial Identification Comprehensive Test | BV498 | All birds learnt | Final ID Test | x | No |

1 Please wear appropriate clothes and footwear for outdoor activities as described above.