

Syllabus for:

Birds and the Environment, BIOL 4250 3.0,

Fall, 2018

Description: A review of the adaptations of birds to different environments, behaviour and ecology, biodiversity and evolution, and current threats to the world's birds.

Laboratories include field trips on campus, a study of bird anatomy, and examination of museum specimens. Two lecture hours, three laboratory hours.

Note: This course is not based on Professor Stutchbury's version of the course, although the labs will be very similar.

Prerequisites: BIOL 2050, BIOL 2060

Personnel: Professor Alex Mills, ammills@yorku.ca

Office Hours: Mondays 1 to 3 pm, or by arrangement, CHEM 134

TAs: Sue Hayes (suehayes@yorku.ca) and Brendan Boyd (bpboyd@yorku.ca)

Lectures: Mondays and Wednesdays 10:30 to 11:20, LSB 105, starting September 5.

Labs: Mondays (1) and Wednesdays (2), 2:30 to 5:20, LUM 126
Labs begin September 10 (outdoor lab)

Evaluation:

- Midterm 1 (15%; short answer questions) Wednesday, October 3rd
- Midterm 2 (15%; longer answer question(s)) Monday, November 12th
- Final exam (40%; cumulative; primarily written answer questions, with the possibility of some multiple choice questions)
- Lab quizzes and assignments (30%)

Important Dates:

- Labs begin Monday, September 10th
- First midterm Wednesday, October 3rd
- Reading week: October 6th through 10th
- Second midterm: Monday, November 12th
- Drop date (no grade reported): November 9th
- Last day of classes: Monday, December 3rd

Resources: No textbook. Readings and links to readings will be posted on Moodle.

No lab manual. Separate lab summaries will be posted on Moodle. These are to be read prior to the lab (although you have not been given sufficient time for the first week).

Course Delivery Information: The course will be in lecture format supported by weekly readings. I use the blackboard and PowerPoint. I will post PowerPoint lectures, in advance when possible. PowerPoint slides are not the entire course, however, and matters discussed or material built using the blackboard, doc-cam, or internet during lectures will be part of the examinable material -- even unanticipated material that we may end up covering. You are advised to read the readings (they are examinable unless otherwise stated), to take notes during class, and to ask questions if content is unclear.

Learning Outcomes:

- (1) Demonstrate through examinations, lab work, field work, and independent projects a knowledge of the anticipated topics;
- (2) Describe experimental design for studying bird population trends;
- (3) Use first-hand experience how population trend data are collected in North America

Course Content:

Anticipated topics (lectures): Diversity and Evolution, Ecology, Life History, Sexual Selection, Vocal Communications, Mating Systems, Nesting and Parental Care, Annual Cycles, Flight, Migration and Navigation, Social Behaviour, Avian Demography, Conservation, Citizen Science. As we cover these, we will also touch upon evolution, flight, population trends, connectivity of populations, climate change, island birds, extinction and endangerment, recovery strategies, song recognition, invasive species, and hybrid zones.

Anticipated topics (labs): Classification; Anatomy for understanding diversity and adaptation; Conducting avian field research to learn identification and survey methods.

For about half the labs there will be a short quiz the following week to test your knowledge of key concepts and facts covered during the previous lab (including any required reading). Each of the quizzes will be of equal value, and missing the quiz without an Attending Physician Statement or prior permission will result in a zero grade.

Experiential Education: Lab and field work.

Other information:

- National Audubon Society Bird Identification App: <https://www.audubon.org/app>
- Cornell Lab of Ornithology "*All about birds*" website
- *Birds of North America series*, through York U library

Other Policies:

Plagiarism will be pursued as academic misconduct files.

Assignments cannot be late, unless an Attending Physician Statement is provided; TAs do not have authority to provide extensions.

Religious accommodations are possible; speak to Dr. Mills in advance if there is a conflict.