

EEB 433: Ornithology
University of Michigan Fall 2016
Dr. Ben Winger

Credits: 4.0

Lecture Time & Location: Tues & Thurs 1:00PM – 2:30 PM, 1505 CCL

Lab Time & Location: Mon 1:00PM- 4:00 PM or Wed 9:00AM – 12:00 PM, 3031 Ruthven
(you must select Monday or Wednesday lab for the whole semester)

Website: Canvas (<http://instructure.umich.edu>)

Instructor: Dr. Ben Winger

Email: wingerb@umich.edu (email is the best way to reach me)

Office: 3013 Ruthven

Office Hours: Tuesday and Thursday 3:00 – 4:00 PM

Graduate Student Instructor: Gordon Fitch

Email: gmfitch@umich.edu

Office: 3015 Ruthven (during office hours)

Office Hours: Monday 4-5 PM; Wednesday 12-1 PM

Undergraduate Instructor: Aspen Ellis

Email: aeellis@umich.edu

Overview.—This course is at once an in depth overview of avian biology and diversity, and a lens through which to explore fundamental ecological and evolutionary principles. Our exploration of avian biology during lecture will be strongly connected to our parallel focus in lab on global diversity and avian form and function. Field trips will focus on learning local Michigan birds and giving you the tools to study and enjoy birds on your own in the field.

Objectives.—By the end of the course, you will have a detailed knowledge of avian biology and diversity that will shape your understanding of and perspective on biodiversity. You will be able to explain and illustrate fundamental principles of ecology and evolution through avian examples, and will gain experience reading, critiquing, discussing, and drawing inspiration from the primary scientific literature. Through the study of museum specimens, you will be able to identify the birds you see *anywhere* you travel in the world. This course will provide rigorous preparation for a career in ornithology and many other ecology-, evolution- and biodiversity-focused fields. But no matter where your career path leads, we hope to instill in you a sense of wonder and curiosity for birds and biodiversity.

Philosophy.—The biology of birds and other organisms is best understood in the context of biodiversity at large – both locally and globally. Therefore, the lab contains a strong emphasis on learning avian global (family level) and local (species) bird diversity. Our goal is to have a dynamic feedback between lecture and lab, whereby you will appreciate avian diversity more deeply as you learn more about the fascinating biology of birds, while your ability to learn and critique ecological and evolutionary principles is enhanced by your growing knowledge of avian diversity and evolutionary history.

COURSE MATERIALS

Books:

Required:

You will need a good field guide to North American birds. I strongly recommend *The Sibley Guide* (Eastern or all of North America), but the National Geographic guide is acceptable. *The Sibley Guide* is available in the campus store.

Optional:

The best book for learning avian families is *Bird Families of the World* by Winkler et al., 2016, published by Lynx Edicions (available on Amazon). This is a beautiful and very useful book, but it is expensive. One copy will be on reserve in University Reserves (Shapiro Library).

The best currently available general textbook is *Ornithology, 3rd Edition*, by Frank Gill (a U-M alumnus!). This book is very useful and lectures will include much content from this book. However, it has become a bit outdated in certain areas, so I am not requiring purchase. It is available in the campus store, and one copy will be on reserve in University Reserves (Shapiro Library).

Other useful books and resources will be detailed in a separate handout.

Binoculars: You must carry and use binoculars on all field trips. We have several pairs we can loan. If you have or want to buy your own (encouraged), please come talk to me.

LECTURE STRUCTURE & EXPECTATIONS

Overview:

Lecture will cover major aspects of avian ecology, evolution, behavior, and conservation. We will loosely follow the (optional) textbook, but there will be a great deal of information that will only be presented in lecture. Evolutionary principles will be emphasized throughout.

During some weeks, lecture time will also be used for **small group presentations and student-led discussion**. The objective of this project, which also involves a **short writing assignment**, is to go more in depth into the frontiers of knowledge on a particular topic in ornithology through a detailed review of the primary scientific literature. This assignment will be detailed in a separate handout.

Lectures will be posted on the course website after class each week. Please **do not share or post lecture material or media** as some material has copyright restrictions.

Lecture Assessment:

Your comprehension of lecture material will be graded with one Midterm and a Final exam. The Final will be cumulative but will emphasize the lecture material covered since the midterm. Exams will be a mix of short-answer questions, definitions, fill-in-the-blank, matching, etc. Material from the (optional) textbook that was not covered in lecture will *not* be included on the exam.

LAB STRUCTURE & EXPECTATIONS

The goal of the lab will be to learn avian family-level diversity, local Michigan birds, and important features of avian biology by examining specimens from the extraordinary collections of the University of Michigan Museum of Zoology.

Lab Learning Objectives:

Birds of the World.— By the end of the class you will be expected to identify, know the names of (properly spelled), and recall critical aspects of the biology and biogeography of 160+ avian families. This will take weekly dedication both during lab time (your only opportunity to observe museum specimens) and on your own, but it will be rewarding — by the end of the class you will be able to travel anywhere in the world and know what birds you are seeing, and you will have a much deeper understanding of biodiversity and the evolutionary context for avian biology. I encourage you to make notes and pencil sketches of specimens during lab time, to study with flash cards and/or with partners to help learn the Latin names, and to take advantage of many excellent online resources (listed separately).

The instructors will present bird families during lab time. In addition, *each student will be responsible for learning about and presenting one family to the class during a lab* (the details of this assignment will be provided separately).

Birds of Ann Arbor.— You will also need to be able to identify (using specimens) 120 species of common birds found in the Ann Arbor area, including their Scientific and English species names (properly spelled), their family, and in several cases, their songs.

Avian Biology, Form and Function, Research Methods.— During some weeks, labs will also involve a separate unit which will use specimen material to illustrate aspects of avian biology and cover practical skills for studying birds.

Lab Assessment:

Each week there will be a short (<10 minute) quiz on the previous week's lab material. There will also be **three lab practical exams** during lab time throughout the semester. These will involve specimen identification, short-answer, matching, true or false, etc. The weekly quizzes will help you keep up with the material and give you an idea of what to expect on the lab practical.

There are two lab sections, and each will have a separate and different lab practical exam. We reserve the right to curve lab grades, so it is strongly in your interest not to discuss the exam material with the other lab section prior to their exam. Sharing your knowledge of exam material with the other lab section or receiving such information will be considered cheating (see Academic Integrity policy, below).

FIELD ASSIGNMENT & FIELD TRIPS

Studying birds in the field is the best way to learn about them. Fortunately, Ann Arbor has many great birding locations. For the field portion of this class, we will learn birding skills and try to see as many local species as we can. Your assignment will be to spend, at minimum, two 3-hour birding sessions in the field, and to make observations in a field notebook that you will also submit to the website *eBird*. We will talk more about *eBird*.

You are **strongly encouraged** to complete this assignment by attending two of the Saturday *or* Sunday morning class fieldtrips (17 *or* 18 September, AND 8 *or* 9 October). These will be 4-5 - hour morning field trips, beginning at 7AM (yes, to be an ornithologist, you sometimes need to get up early!). The best way to learn birds is to spend time in the field with experienced birders. All of your instructors not only have a lot of birding experience but love sharing their knowledge in the field.

If you have weekend job, athletics or other official scholastic obligations that prevent you from attending two field sessions, you can complete this assignment on your own. However, you must get permission from Dr. Winger within the first two weeks of the semester. You will be asked to provide documentation of the conflict.

In addition, we will have an optional evening field trip to see the Sandhill Crane migration near Jackson in late October or early November (date TBD). Seeing the cranes is one of the most extraordinary natural phenomena in all of Michigan, and truly a memorable outing that is good for the soul.

Finally, any students in the class with birding experience are encouraged to invite their Ornithology class colleagues to go birding throughout the semester (and beyond!). The University of Michigan has a Student Birding Club that has field trips and other programs, and we will make the schedule available.

GRADE DETERMINATION

Lecture will count for 50% and Lab 50% of the final grade

Lecture grading breakdown:

Lecture Midterm:	15%
Lecture Final:	20%
Group Presentation:	5%
Participation in Class & Discussions:	5%
Writing Assignment:	5%

Lab grading breakdown:

Weekly quizzes:	7%
Lab Practical 1:	10%
Lab Practical 2:	10%
Lab Practical 3:	10%
Birds of the World presentation:	3%
Field Assignment:	10%

Graded assignments and exams will be returned during class time.

Final Exam: December 19th, 4-6 PM

CLASS POLICIES & OTHER INFO

Special Accommodations

Students with documented disabilities or medical conditions that require special accommodations should meet with Dr. Winger during the first two weeks of the semester. We are happy to work with you to develop an access plan for the course. The sooner we hear from you, the better able we will be to accommodate any needs. Students should contact the Office of Services for Students with Disabilities (<http://ssd.umich.edu>) to receive a Verified Individual Services Accommodation (VISA) form and to help determine accommodations. Any information you provide is private and confidential and will be treated as such.

Academic integrity

It is your responsibility to abide by the LS&A policy on academic integrity, and to understand the consequences of violations: <http://www.lsa.umich.edu/academicintegrity>

Make-up Exams and Late Assignments

Make-up exams and quizzes will only be offered for emergency situations, due to the time involved in putting out the specimens. If there is a genuine emergency, you will need to discuss the circumstances with Dr. Winger and provide documentation within 24 hours of the exam. You

have ample time to make all non-emergency travel plans accordingly and thus make-up exams will *not* be offered for routine travel delays or other inconveniences or conflicts.

Make up exams or quizzes may contain altered content.

Late assignments will receive a 25% point reduction per day.

Attendance

We expect you to attend lectures and labs and to be an active participant in the class. Although Powerpoints will be posted to the course website, the slides may not contain all of the information provided in the lecture and that you are required to learn. Thus, to succeed in this class, you must attend. Consistent unexcused absences will result in a grade reduction.

Laptops and Technology

The use of laptops and smart phones in class can be extremely distracting for the other students in the class *and to the instructors*. **Please be respectful and conscientious.** If you are distracting the instructor, or if an instructor perceives you are distracting other students with your use of technology, we will not allow you to continue using the device. If the instructor perceives that you are using the device for any other purpose than taking notes, we will not allow you to continue using it. **Laptops and phones must be put away for group presentations.**

Handling of Specimens

For Birds of the World, we will have the opportunity to study several hundred specimens from the University of Michigan Museum of Zoology's research collection, which is one of the most important scientific collections in the world. These are delicate, often very old (1800s or early 1900s), and absolutely irreplaceable. An extraordinary amount of sacrifice was involved in the field collection of each of these specimens, and major resources have gone into their care to the present day. Many of the localities where these specimens were collected have since been deforested or otherwise destroyed, and thus the specimens represent the only biological record from that location. *It is a major privilege to use these specimens for this class and they must be handled with utmost care at all times.*

The rules for handling specimens will be provided in writing during the first lab. Violation of these rules or other careless behavior with the specimens will be taken seriously and will be considered grounds for dismissal and/or failure.

Class Climate, Stress Management

My goal is to create a positive atmosphere in which all students feel comfortable asking questions and engaging with the material, each other and the instructors. All members of the class are expected to be respectful of one another at all times.

This will be a rigorous course, but the organization of the course is designed to help you succeed if you put the time in each week.

If the demands of the course — or other aspects of college life — become overwhelming, there are many excellent resources on campus to help you manage stress and care for your mental health and well-being. I encourage you to reach out earlier rather than later. Check out the many resources listed here:

Counseling and Psychological Services (CAPS) at (734) 764-8312

<https://caps.umich.edu/resources>

<https://www.uhs.umich.edu/stressresources>

<https://www.uhs.umich.edu/mentalhealthsvcs>

Don't hesitate to meet with me or the GSI if you are facing difficulties.