

ZOO 4272
Ornithology
Spring 2023
3 credits

Instructor: Dr. Anna Forsman

Email: anna.forsman@ucf.edu

Office: Bio 439

Office hours: Tuesday and Thursday, 3:00-5:00pm (or by appointment)

Course Times: Tuesday and Thursday, 1:30-2:50pm

Course Location: Biology Field Building (FSFS 0102)

Teaching Assistant: Margherita Ferragamo

Course Description

Birds have captured human interest and imagination for generations. These fascinating animals captivate us with their broad diversity of ornamentations, vocalizations, and behaviors. Famous bird enthusiasts include Charles Darwin, David Attenborough, John James Audubon, Ernst Mayr, Niko Tinbergen, and Konrad Lorenz. Birds have inspired art and poetry and are featured prominently in television and movies, whether you realize it or not. Birds are mostly diurnal creatures and so they are easy to observe even with minimal time spent outdoors. No wonder that bird watching has become such a popular hobby around the world! But as biologists, we are interested in getting to know these charismatic animals on a deeper level. Ornithology, the study of bird biology, has a long and rich history that is often intertwined with other disciplines, including evolutionary biology and psychology. In this course we will learn how both modern birds and their study came to be. We will learn about the anatomical and physiological specializations that make birds unique and allow them to more efficiently utilize the resources and conditions encountered in their environments. Birds are often admired for their beautiful plumages and intricate songs, both of which play important roles in mate choice and other social interactions. We will cover these topics in depth with the aid of a broad range of multimedia to allow us a glimpse into the lives of birds from around the world. An important characteristic of many, but not all, bird species is their ability to fly. Many birds partake in incredible feats of long-distance flight to move between wintering and breeding grounds. In this course we will learn about such annual cycles, including migration and molt. In summary, the course objective is to provide a comprehensive introduction and appreciation for the evolutionary history, diversity, ecology, biology, and behavior of birds. Class meetings are structured to combine lecture and hands-on activities, making use of the UCF bird collection, audio and video from the Cornell Lab of Ornithology, and the local Florida birds waiting just outside our own Field Building.

Course Objectives

- Develop working knowledge of the evolutionary history and systematics of modern birds
- Understand the anatomical and physiological adaptations that distinguish birds from other animal taxa
- Explore the great diversity of avian behaviors, including migration and dispersal, communication, resource acquisition, mate selection, and parental care
- Gain hands-on experience with birds through interactions with museum specimens, multimedia, and field experiences
- Identify local species common to central Florida
- Maintain a field notebook, documenting species encounters and behaviors observed in the field

Required Materials

1. Lovette, I.J. and Fitzpatrick, J.W. 2016. *Handbook of Bird Biology (Cornell Lab of Ornithology)*, 3rd edition

Do NOT purchase this textbook unless you absolutely want to. Electronic access to this text is available for FREE through the UCF library

2. Blank notebook to use as field notebook
3. Other readings will be made available via Webcourses throughout the semester

Webcourses

I will be maintaining a course website through UCF Webcourses that will be updated throughout the semester (<https://webcourses.ucf.edu>). This is where additional reading materials, announcements, and grades will be posted. Please check the course website on a regular basis.

Course Policies

- As your instructor, it is my responsibility to create a positive and inspiring learning environment for all students. Student feedback is essential to facilitate this goal and so I encourage students to contact me immediately as questions or concerns arise throughout the semester. If there are special considerations that may affect your participation or learning experience in any way, please meet with me at the start of the semester to talk about any necessary adjustments; I also suggest that you to contact SAS (Ferrell Commons 185, (407)823-2371, sas@ucf.edu) for more information about academic accommodations at UCF.

Course Policies (continued)

- I expect that students and instructors will show respect for each other and for the course materials. Please contact me if you have any concerns to this effect. We are very fortunate to have access to an ornithology collection at UCF. Many of these specimens were collected during the early to mid-20th century and represent irreplaceable data points for this period in time. Students will be trained in proper handling and care of specimens and are expected to follow these guidelines when working with specimens. This policy also applies during field experiences where we will have the chance to encounter birds in the hand.
- Attendance and class participation are key to getting the most out of this course and will, thus, account for 10% of your final grade. During class meetings, we will be interacting with bird specimens that will not be readily accessible outside of class. We will also spend time observing birds together in the vicinity of the Field Building. For some of these activities, there may be graded worksheets for students to complete and turn in at the end of that day's class. These worksheets will count towards participation.
- Cell phones and other electronic devices, not used for note-taking, should be silenced and put away at the start of lecture. Please be respectful of the learning environment of those around you. If you need to make/take a phone call or text during lecture, please step outside so that I don't have to ask you to do so 😊
- We are living in COVID times... I am completely understanding that folks may need to miss class because of personal or family illness. If you are feeling sick, please don't come to class. If you need to make up class activities or exams, please communicate with me directly, preferably in advance. In-class assignments are due at the end of the class period in which they are assigned. Due dates for out-of-class assignments will be posted on Webcourses.
- Plagiarism, cheating, or any other form of academic dishonesty will not be tolerated. Please submit your own work and make sure to cite any references appropriately. Any instances of academic dishonesty will result in a zero for that particular assignment/exam; depending on the severity, such instances may result in an F for the course and referral to the Office of Student Conduct for further action. For further clarification, please review the UCF Golden Rule.

Grading

Grades will be assigned according to the following scale:

A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: <60

The final grade for this course will be based on nine components:

Assessment	% of final grade
Attendance & Participation	10%
Birds in the News (2 entries)	5%
Bird ID Quizzes	5%
Field Notebook	10%
Term Paper	10%
Exam 1	20%
Exam 2	20%
Exam 3	20%

1. **Attendance and Participation (10%)** will be based on your attendance and completion of in-class activities including graded worksheets, discussions, and surveys, as well as the families and orders to which they belong. Students will also be responsible for knowing the 39 orders of birds covered during BOW.
2. **Birds in the News!** At the start of each lecture, I will show a rotation of news story summaries about recent ornithological research, bird conservation, or other interesting pieces of information about birds (e.g., new species discoveries). Everyone in the class will be responsible for contributing two such summaries, in PowerPoint format, during the course of the semester (**5%**). Your due dates will be assigned to you during the first week of class. Note that the first set of due dates will occur during the second week of class, so start scouring the news sooner rather than later!
3. Each week we will introduce a new set of common local bird species (5-10 per week). Throughout the semester, you will have the opportunity to test your bird identification skills through **Bird ID Quizzes (5%)**. For these quizzes, you will be responsible for knowing the common and scientific names of these local bird species. Most of these quizzes will be administered through Webcourses, with occasional specimen-based quizzes given during class time.

4. **Field Notebook (10%).** Students are expected to maintain a field notebook, listing and describing observations of birds throughout the semester. This notebook should contain a minimum of **ten entries** describing observation periods of at least **20 minutes** (each) outside of class time. Any in-class bird watching should also be recorded in the field notebook, but do not count toward the 10-entry minimum, which should be independent observations (but weekend bird-watching field trips count!). Field notebooks will be collected and graded two times during the semester to allow for instructor feedback: **Feb 23 & Apr 13**. A minimum of five independent entries should be recorded at the time of first notebook collection.
5. Each student will complete an independent **Term Paper (10%)**, which consists of a 2-3 page paper focusing on one bird taxon selected by the student (approved by the instructor to avoid overlap). Term papers are **due on March 9**. Students will write about an aspect of the species' biology that they find particularly interesting (e.g., parental care), based on published research from the primary literature. A comprehensive description of this assignment will be available through webcourses. This term paper takes the place of a cumulative final exam.
6. There will be three midterm **Exams (20% each)**. Midterm exams will include material covered since the preceding exam and up to the present exam. Exam questions will be drawn from lecture, reading materials, and other class activities.

Voluntary Field Trips

Throughout the semester, there will be opportunities for students to participate in voluntary field trips to the Orlando Wetlands and surrounding areas to go bird watching. These daytime trips will be scheduled during weekends. They are not mandatory, nor do they count for any additional credit towards the class. But I highly encourage student participation! The Orlando Wetlands offers amazing birdlife, especially during the winter and early spring. It is also a great opportunity to work on your identification skills alongside experienced bird watchers, while also logging entries in your field notebook. We have a class set of binoculars, spotting scopes, and field guides that will be available to students during these field trips. Sign up through webcourses!

Semester Schedule

****Please keep in mind that this schedule of lecture topics will likely change as we work our way through the semester****

Week	Date		Topic
1	10-Jan	Tues	Introduction. Why study birds?
	12-Jan	Thurs	History of Ornithology
2	17-Jan	Tues	Avian diversity and classification
	19-Jan	Thurs	Evolution and Systematics I. Origin of birds
3	24-Jan	Tues	Evolution and Systematics II. Specimens, fossils, and DNA
	26-Jan	Thurs	What makes birds special? Feathers, plumage, and molt
4	31-Jan	Tues	Anatomy I. Flight
	2-Feb	Thurs	Anatomy II. Feet, feeding, and vision
5	7-Feb	Tues	Physiology I. Respiration and digestion
	9-Feb	Thurs	Physiology II. Thermoregulation, brains and senses
6	14-Feb	Tues	Exam 1
	16-Feb	Thurs	Breeding Biology I. Reproduction and the avian egg
7	21-Feb	Tues	Breeding Biology II. Incubation and development
	23-Feb	Thurs	Breeding Behavior I: Sexual selection (Notebook Due)
8	28-Feb	Tues	Breeding Behavior II: Parental care and foraging
	2-Mar	Thurs	Social Behavior 1.
9	7-Mar	Tues	Social Behavior 2.
	9-Mar	Thurs	Ornithology Research (Term Paper Due)
10	14-Mar	Tues	Spring Break
	16-Mar	Thurs	Spring Break

Semester Schedule (continued)

Week	Date		Topic
11	21-Mar	Tues	Ornithology Research
	23-Mar	Thurs	Communication I. Vocal, visual, and olfactory
12	28-Mar	Tues	Exam 2
	30-Mar	Thurs	Migration and Dispersal 1
13	4-Apr	Tues	Migration and Dispersal 2
	6-Apr	Thurs	Bird Populations and Demography
14	11-Apr	Tues	Life History
	13-Apr	Thurs	Bird Communities (Notebook Due)
15	18-Apr	Tues	Purple Martin Field Experience
	20-Apr	Thurs	Exam 3