

**Ornithology
IB / NRES 461**

Syllabus for Spring 2024

Instructors:

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Course Description: Ornithology is the biological study of birds. Here we survey the structure, function, ecology, behavior, and evolution of the birds of the world; the laboratory is devoted to anatomy and identification; and field studies are devoted to identification and tracking of wild birds. This is a 4 credit-hour course for undergraduates and graduates.

Meeting Times and Locations

Lecture: MWF 11:00-11:50 am; Natural History Building 2083

Lab: M or W 8:00-10:50 am; Natural History Building 4072

Learning Outcomes: The goal of this course is to introduce students to the biology of the Class Aves. Course learning outcomes include (1) understanding the proximate and ultimate patterns and causes of biological diversity, form, and function in birds, (2) identification of Illinois avifauna, and (3) assessment and synthesis of primary avian scientific literature. This course also emphasizes student learning outcomes (SLOs) aligned with program outcomes (1) possess a significant knowledge base in Integrative Biology, including structure and function, ecology, genetics and heredity, evolution, molecular biology, and statistical inference, (3) show curiosity and caring about biology, and an awareness of and appreciation for the diversity of life, (10) read and synthesize primary scientific literature, and (11) critically evaluate science-related news and information.

Course Website: Materials for both the lecture and lab portions of this course will be posted on Canvas.

Textbooks and Materials

Lecture: There is no textbook required for the lecture portion of the course, but lectures largely follow Frank B. Gill and Richard O. Prum. 2019. *Ornithology* (4th edition). W. H. Freeman, New York, NY. ISBN: 978-1-4641-8436-9. A copy of this text will be placed on reserve at the Funk ACES Library.

Lab: Students will be required to purchase a field guide to the birds of North America. You may choose whichever guide you prefer, but we recommend the following: John L. Dunn and Jonathan Alderfer. 2017. National Geographic Field Guide to the Birds of North America (7th edition). National Geographic Society, Washington, D. C. **Other Materials:** Binoculars will be provided and can be checked out for field labs. Students may also bring their own binoculars if they prefer.

Attendance and Assignment Policy

Students are expected to attend all lectures and labs. Lecture slides will be available on the course website. We will also have in-class discussions, quizzes, and exams. There will be no make-ups for any exams, quizzes, or lab exercises than for documented illnesses or other reasons approved beforehand by the course instructor. We expect students to submit assignments (described below) in a timely fashion. Late assignments are subject to a point penalty.

Required Reading

Though textbook reading is not required, the lecture schedule follows chapters of *Ornithology* (Gill and Prum 2019). Recommended chapter readings from *Ornithology* are provided on the attached schedule. We will read several scientific journal articles in preparation for in-class activities. These will be provided on the course website prior to their associated activities.

Required Lecture Assignments

- Quizzes (100 pts total) There will be 5 quizzes worth 25 pts each. You will be allowed to drop your lowest quiz grade.
- Lecture Exams (300 pts total) There will be three non-cumulative lecture exams worth 100 pts each. Questions will be drawn from lecture material and reading assignments. They will be a combination of multiple choice, definition, short answer, and essay. Exams will be given on paper in-class.
- Literature Review (40 pts) and Presentation (35 pts). You will complete a review of an original research topic using peer-reviewed research articles (minimum of 3 articles) that addresses a topic of your choice in ornithology. If you are having trouble deciding on a topic please contact one of the instructors. The review should be 3-5 pages and outline the topic, the current state of the knowledge, and what future work is needed to better understand the topic. The **presentation**, due to the lack of in-person time, will be recorded. The presentation should cover the important aspects of your literature review. The easiest approach would be to use Zoom and submit the presentation (video) as an mp4. The presentation should be 5-10 minutes and we would suggest using PowerPoint to include figures and other content. Both the review and presentation will be submitted via Canvas. These are both due by midnight CST on May 10th.

Lab Information

Students are expected to attend all lab sessions. Missed labs cannot be made up (but see Missed Assignments/Exams section below). Lab handouts/worksheets will be available on the course website prior to lab. Students are responsible for reading and printing materials. Please see the Missed Assignments/Exams section below for information on making up missed grades.

- **Field Labs:** We will spend a number of lab sessions birding and mist netting outdoors. Field labs may extend into lecture time. Bring binoculars (provided or your own) and a notebook (not provided) in which you can record field notes and keep a bird species list. Remember to dress appropriately for the weather. For each field lab, you will be required to record birds observed. See below for further details.
- **Bird Specimen Labs:** Much of the lab will be devoted to learning to identify ~150 of the bird species in Illinois by studying museum specimens and listening to vocalizations (songs/calls) of each species. Please handle specimens with care, as they are fragile and irreplaceable. We will discuss care and use of specimens further in lab. You are required to keep species accounts for each species in the specimen labs. See below for further details.

Required Lab Assignments

- **Lab Quizzes (150 pts)** There will be three practical style lab quizzes. The first will cover internal and external avian anatomy, identification and classification of bird specimens (50 pts). The second will cover identification and classification of bird specimens and vocalizations (50 pts). The final quiz (50 pts) will be a field quiz with binoculars, where you will be required to identify bird species we encounter that we have previously identified in the field.
- **Field Trip Summaries (75 pts)** Students are required to submit a summary report of each field trip (trip details, bird sightings, identification notes) via Canvas following a pre-made template. We will provide the template and additional information during the first lab.

Laboratory and Field Safety

Potentially hazardous reagents and materials are used in modern biology. As is the case with any tool, these are hazardous only when handled improperly. Ensure your personal safety by reading laboratory instructions carefully before class and following instructions in the lab.

- Keep coats, backpacks, and personal belongings off walkways and off bench tops.
- Wear close-toed shoes at all times in the lab.
- Do not store, prepare, or consume food or beverages in the lab.
- Keep drawers and cabinets closed when not in use.
- Keep bottles, reagents, and equipment away from the edges of counters and benches.
- Clean up spills immediately. Seek help if you are unsure how to clean a spill.
- Know the location of safety and first aid equipment and their appropriate use.
- Clean your lab bench after a lab exercise, including the floor if necessary.
- Discard any hazardous or biological material according to instructions.
- Wash your hands before leaving the lab.

Sharps - Some lab exercises may require the use of razor blades or other cutting instruments. A specially designated “sharps” container will be available for disposing of used blades. **DO NOT** discard these items in the trash can and do not leave them on your bench after you are finished.

- Do not use double-edged razors as-is out of the package. Carefully break them in half to form two single-edged razors. Cover the broken edge with tape to prevent cuts.
- **DO NOT** pick up broken glass with your bare hands. Sweep it up with a broom and dustpan, then use a wet paper towel to collect fine pieces of broken glass.

Chemicals

Some potentially hazardous chemicals may be used in laboratory exercises. The teaching assistant will point these out at the beginning of each lab period and instruct you how to safely dispense, use, and dispose of these materials. Never mix organic solvents with strong acids.

- Organic chemicals should be disposed of in specially marked containers. Never pour them down the laboratory sink. If this accidentally occurs, wash them down the drain with large amounts of tap water.
- You may be required to wear safety goggles for some labs.

Evaluation/Grading

Grades will be earned by accumulating points from the following:

Lecture Quizzes 100 pts
 Lecture Exams 300 pts
 Literature Review 40 pts
 In-class Presentation 35 pts
 Lab Quizzes 150 pts
 eBird 75 pts
 Total Possible Points 700 pts

GRADING SYSTEM:

A+	97 to 100%
A	93 to 96.9
A-	90 to 92.9
B+	87 to 89.9
B	83 to 86.9
B-	80 to 82.9
C+	77 to 79.9
C	73 to 76.9
C-	70 to 72.9
D+	67 to 69.9
D	63 to 66.9
D-	60 to 62.9
F	< 59.9

<u>Date</u>	<u>Lecture Subject</u>	<u>Lab</u>
January 17	Introduction (All)	No Lab
19	Origin & Evolution of Birds (Stodola)	
22	Origin & Evolution of Birds (Stodola)	Birds I
24	Phylogenetics & Systematics (Stodola)	
26	Phylogenetics & Systematics (Stodola) Quiz	
29	Feathers & Flight (Benson)	Anatomy
31	Feathers & Flight (Benson)	
Feb. 2	Physiology (Benson)	
5	Physiology (Benson) Quiz	Birds II
7	Brains, Intelligence, & Senses (Enos)	
9	Brains, Intelligence, & Senses (Enos)	
12	Vocalizations (Enos)	Clinton Lake
14	Vocalizations (Enos)	
16	EXAM I	
19	Annual Cycles (Enos)	Birds III / Quiz 1
21	Migration & Navigation (Enos)	
23	Migration & Navigation (Enos)	
26	Migration & Navigation (Enos)	Birds IV
28	Social Behavior (Enos)	
March 1	Social Behavior (Enos) Quiz	
4	No Lecture	Homer Lake/Mistnetting
6	No Lecture	
8	Conservation Behavior (Enos)	
9-17	Spring Break	
18	Breeding Systems (Benson)	Birds V
20	Breeding Systems (Benson)	
22	Brood Parasitism & Grassland birds (Guest Lecture: Shelby Lawson)	
25	Nests & Incubation (Benson)	Paper Discussion/ Quiz 2
27	Parents & Offspring (Benson) Quiz	
29	Parents & Offspring (Benson)	
April 1	Parents & Offspring (Benson)	Specimen Demonstration
3	EXAM II	
5	Life History (Stodola)	
8	No Lecture	Wetland Trip (TBD)
10	No Lecture	
12	Populations (Enos)	
15	Life History (Stodola)	Busey Woods
17	Populations (Stodola)	
19	Speciation (Stodola)	
22	Communities (Stodola) Quiz	Field Quiz (Busey Woods)
24	Climate Change & Birds (Enos or Guest Lecture)	
26	Careers and Grad School (Enos +)	
29	Local Conservation (Guest Lecture: Mike Ward)	No Lab
May 1	Review (Enos +)	
9	FINAL EXAM (8:00-11:00 AM)	
10	Review and presentation are due (online via Canvas)	

University Policies

Academic Integrity

The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>.

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructors if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

Students with Disabilities

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the as soon as possible. To ensure that disability-related concerns are properly addressed from the beginning, students with disabilities who require assistance to participate in this class should contact Disability Resources and Educational Services (DRES) and see the instructor as soon as possible. If you need accommodation for any sort of disability, please speak to the instructors after class, or make an appointment to discuss. DRES provides students with academic accommodations, access, and support services. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TDD), or e-mail disability@illinois.edu. <http://www.disability.illinois.edu/>.

Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <http://registrar.illinois.edu/ferpa> for more information on FERPA.

Disruptive Behavior

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office for Student Conflict Resolution for disciplinary action.

Religious Observances

The Religious Observance Accommodation Request form is available online at https://cm.maxient.com/reportingform.php?UnivofIllinois&layout_id=39

Submit the form to the instructor and to the Office of the Dean of Students (helpdean@illinois.edu) by the end of the second week of the course; in the case of exams or assignments scheduled after this period, students should submit the form to the instructor and to the Office of the Dean of Students as soon as possible.

Sexual Misconduct Reporting Obligation

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: wecare.illinois.edu/resources/students/#confidential.

Other information about resources and reporting is available here: wecare.illinois.edu.

Diversity and Decency

The course instructors support the commitment of Inclusive Illinois "to cultivating a community at Illinois where everyone is welcomed, celebrated, and respected (<https://rynetwork.illinois.edu/inclusive/>). The effectiveness of this course is dependent upon the creation of an encouraging and safe classroom environment. Exclusionary, offensive or harmful speech (such as racism, sexism, homophobia, transphobia) will not be tolerated and in some cases is subject to University harassment procedures.

Here are a few additional resources that might be of interest. If you go by a name that is different from your legal name, you can now provide your chosen name to the University. The chosen name will automatically appear in University systems. To set or change your chosen name, using campus portal or other resources, enter Banner Student Self-Service and under Personal Information options, select Preferred First Name. Follow prompts.

https://www.uillinois.edu/about/policies/preferred_first_name_statement

If you prefer to use single-stall restrooms, the following link is a list where these restrooms are available on campus. Single stall restrooms are often labeled Family Restrooms, All-Gender Restrooms, or Unisex restrooms:

<https://oiir.illinois.edu/sites/prod/files/Gender%20Inclusive%20Restroom%20List.pdf>

Students have access to the Counseling Center, located in room 206 in the Student Services Building (610 East John Street, Champaign). Hours of operation: 8 am to 5 pm. The Counseling Center is committed to providing a broad range of high quality, innovative, and ethical services that address the psychological, educational, social, and developmental needs of University of Illinois students. <https://counselingcenter.illinois.edu/counseling>

Emergency Response Recommendations

Emergency response recommendations can be found at the following website:

<http://police.illinois.edu/emergency/>.

I encourage you to review this website and the campus building floor plans website within the first 10 days of class. Information on how to respond to an emergency (run-hide-fight) can be found here:

<http://police.illinois.edu/emergencypreparedness/run-hide-fight/>.