

Lecture Information

Instructor:

Prof. Mark E. Hauber, Dept. of Evolution, Ecology, and Behavior, School of Integrative Biology, UIUC

Office: 469 Morrill Hall

Email: mhauber@illinois.edu

Office Hours: 9-9:50 AM Fridays or by appointment, 469 Morrill Hall

Teaching Assistant/Lab Sections: Abbigail Turner, PhD Candidate in the Dept. of Evolution, Ecology, and Behavior, School of Integrative Biology, UIUC

Email: aturner5@illinois.edu

Office Hours: TBD.

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.

4 CR for both undergraduates and graduates. Prerequisite: IB 203; or written consent of instructor. This is an optional course for the IB undergrad major under Area I: Organismal & Evolutionary Biology. *An undergrad IB honors credit project is available upon request from the instructor.*

Your learning outcomes include (1) the proximate and ultimate patterns and causes of biological diversity, form, and function in birds, (2) practical applications regarding and the identification of Illinois' avifauna, and (3) the ability to assess and synthesize readings from primary scientific literature on birds.

Schedule: 11:00 – 11:50 AM, MWF, 2083 Natural History Building

Text: F. Gill's Ornithology (any edition, including the latest with R. Prum).

Course Web Site: Materials for the course will be posted on the course Moodle site: <https://learn.illinois.edu>

Exams and Grading

Course Grading Philosophy

- 1) I use the standard 90, 80, 70, 60% scores as starting cutoff points for A, B, C, and D grades, respectively, with options for plus grades (A+, B+, but not A-, B-). Depending on the distribution of points at the end of the semester I **may** drop the cut off points slightly (e.g., 88% might become the A cut off) but I **will not raise** the cut-offs.
- 2) Reading assignments for the lectures are provided on the schedule below. **The expectation is that you will have read this material before coming to class and/or lab.** Material from the text will be covered quickly and used as a starting point to explore topics in more detail.
- 3) There will be two non-cumulative exams and one writing assignment (the latter will involve reading and summarizing an original peer-reviewed research article).
- 4) The exams, including the final exam covering lecture and reading materials will be held online (no lecture and/or in person exam on those days). The final exam will be held during the last week and, again, online. Lab practicals will be held during the lab schedule in the lab space; you must attend in person to take a lab practical.

Exams and practicals can be made up only with proper excuse and documentation. If you are ill, you need a doctor's or McKinley letter – a note from the Emergency Dean does not substitute for a doctor's excuse. You must contact Dr. Hauber before the exam or as soon as possible after the exam to ensure that your absence is excused and that another accommodation can be arranged.

Point Allocation

Exams - 50% (each 25%), 1 Writing Exercise - 20%, 3 Lab Practicals - 30% (each 10%)

Contesting Grades

If you feel that your assignment or exam has been graded inappropriately, you are welcome to contest grades via a written statement within one week of receiving the graded assignment. To contest a grade, you must submit a written statement (preferably via email) of what you believe was graded incorrectly and why the grade should be altered. No oral contesting of grades will be considered, nor will we consider any contest of grades submitted after one week.

Disabilities Statement

If you require special accommodations, please tell Dr. Hauber as soon as possible. All accommodations will follow the procedures as stated in Article 1-110 of the Student Code (http://studentcode.illinois.edu/article1_part1_1-110.html). To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TTY), or e-mail a message to disability@illinois.edu.

Academic Integrity is essential to maintaining a learning environment that promotes excellence. We expect that all students will complete all academic and scholarly assignments with fairness and honesty. We adhere to the academic misconduct guidelines outlined by the Student Code of Conduct and will report any suspected academic misconduct. Please see http://studentcode.illinois.edu/article1_part4_1-402.html for additional details. If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact Dr. Hauber.

Lab Information: Mondays or Wednesdays 8:00-10:50AM

Location: 4072 Natural History Bldg.

Lab Attendance Policy: Attendance is expected at all scheduled laboratory or field work sessions. Because of limitations on lab space and staffing, missed labs cannot be made up beyond the weeks for which they are scheduled. Limited accommodation of students with conflicts may be made in other lab sections within the same week – **this must be cleared with Prof. Hauber or the TA.**

Laboratory and Field Safety: Potentially hazardous reagents and materials are employed in modern biology. As is the case with any tool, these are hazardous only when handled improperly. **One way to ensure your personal safety is to read the laboratory instructions carefully before coming to class and to adhere to the following general instructions when you are in the lab.**

- Wear close-toed shoes (NOT sandals) at all times in the laboratory.
 - Do NOT store, prepare or consume food or beverages, including coffee, in the laboratory.
 - Keep drawers and cabinets closed when you are not accessing materials inside.
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- Keep bottles, reagents and equipment away from the edges of counters and benches.
- Clean up any spills immediately.
- Learn the locations of safety and first aid equipment and use them when appropriate.
- Wash your hands before leaving the laboratory.
- Clean your lab bench after exercise, including the floor area if necessary. Discard any hazardous or biological materials according to the instructions provided by the Teaching Assistants.

Coats, backpacks and other personal belongings: The IB 461 lab space is rather cramped. To avoid injuries that could result from students or instructors tripping over backpacks or coats hung over the backs of chairs it is critical that these items be placed in the designated storage area. The lab book, a notebook and writing implements are the only items that should accompany you in your lab space.

Sharps: Some of the exercises you will perform in the laboratory will involve dissections using 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 lab trash containers and do not leave them lying around on the lab benches after completing your work. The sharps container is also the appropriate place to dispose of any broken glassware.

- Do not use a double-edged razor blade as is out of the package. Carefully bend and break them in half to form two single-edged blades and cover the broken side with a piece or two of lab tape to prevent cuts.
- Do not pick up broken glass with bare hands. Use gloves or sweep up. Wet paper toweling can be used to collect fine pieces of broken glass.

Chemicals: Some potentially hazardous chemicals will be used in the laboratory exercises. The Teaching Assistants 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 pour organic chemicals down the laboratory sink: they will be collected in specially marked containers. Should some organic reagents be accidentally discarded in the sink, flush them down the drain with large amounts of tap water.
- In some experiments the use of safety goggles/glasses is recommended to prevent eye damage.
- Never mix organic solvents with strong acids.

Tentative Course Schedule (subject to change):

Day of Week	Date 2023	Topic	Reading (Gill and Prum: Ornithology)	Lab Streams (M/W)
Wednesday	18-Jan	A personal history of my ornithology	Hauber et al. 2006	No lab this week
Friday	20-Jan	A personal history of my ornithology	Turner and Hauber 2021	None
Monday	23-Jan	Dinosaurs	Chapter 1	Illinois Birds 1
Wednesday	25-Jan	Natural selection	Chapter 1	Illinois Birds 1
Friday	27-Jan	Phylogenies	Chapter 1	None
Monday	30-Jan	Avian coloration	Chapter 2	Illinois Birds 1 Pratical
Wednesday	1-Feb	Vocalizations and other sonations	Chapter 5	Illinois Birds 1 Pratical
Friday	3-Feb	Flight and flightlessness	Chapter 2	None
Monday	6-Feb	Sensor systems	Chapter 3	Field work
Wednesday	8-Feb	"A brain for each season"	Chapter 3	Field work
Friday	10-Feb	Endocrine systems	Chapter 5	None
Monday	13-Feb	Review session (on ZOOM)		No lab
Wednesday	15-Feb	Online Exam		No lab
Friday	17-Feb	Eggs and nests	Chapter 4	None
Monday	20-Feb	Natal dispersal	Chapter 3	Illinois Birds 2
Wednesday	22-Feb	Breeding Dispersal	Chapter 3	Illinois Birds 2
Friday	24-Feb	Homing and orientation	Chapter 3	None
Monday	27-Feb	Migrations	Chapter 3	Illinois Birds 2 Pratical
Wednesday	1-Mar	Island living		Illinois Birds 2 Pratical
Friday	3-Mar	Interspecific interactions	Chapter 4	None
Monday	6-Mar	Intraspecific brood parasitism	Chapter 5	Field work
Wednesday	8-Mar	Interspecific Brood Parasitism	Chapter 5	Field work
Friday	10-Mar	Predator-prey dynamics	Chapter 6	None
Monday	13-Mar	Spring break		None
Wednesday	15-Mar	Spring break		None
Friday	17-Mar	Spring break		None
Monday	20-Mar	Sources and sinks	Chapter 6	Field work
Wednesday	22-Mar	Illinois avian ecology		Field work
Friday	24-Mar	Illinois avian ecology	Writing assingment due.	None
Monday	27-Mar	Modes of development	Chapter 5	Field work
Wednesday	29-Mar	Aging and senescence	Chapter 7	Field work
Friday	31-Mar	Tropics vs temperate zones	No reading	None
Monday	3-Apr	High elevations and other extreme environments	McCracken et al. 2009	Illinois Birds 2
Wednesday	5-Apr	Foraging theory	Chapter 6	Illinois Birds 2
Friday	7-Apr	Foraging theory	Chapter 6	None
Monday	10-Apr	Nutritional ecology	Chapter 6	Illinois Birds 2 Pratical
Wednesday	12-Apr	Clutch size evolution	Chapter 4	Illinois Birds 2 Pratical
Friday	14-Apr	Timing of breeding	Chapter 5	None
Monday	17-Apr	Parental care	Chapter 5	Bird songs of Illinois
Wednesday	19-Apr	Embryonic and nestling communication	Chapter 5	Bird songs of Illinois
Friday	21-Apr	Fledglings and independence	Chapter 5	None
Monday	24-Apr	Delayed plumage maturation	Chapter 2	Bird song practical
Wednesday	26-Apr	Communal and cooperative breeding	Chapter 5	Bird song practical
Friday	28-Apr	Communal and cooperative breeding	Chapter 5	None
Monday	1-May	Review session on ZOOM		No lab
Wednesday	3-May	Final exam online		No lab