

BIOL 4055/5055.001– ORNITHOLOGY

3 credits (Tues/Thurs 9:30-10:50 am, in-person) – Spring 2026

Location: ENV 190

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Office Hours: Mon 2:00 – 3:00 pm

Tues 11:00 am – 12:00 pm

Thurs 11:00 am – 12:00 pm or by appointment

Required Texts:

1) Gill, F.B. and R.O. Prum. 2019. Ornithology. 4th Edition, W. H. Freeman, New York (ISBN-13: 978-1-4641-8436-9)

2) Good field guide for birds; recommendations include:

The Sibley Guide to Birds of Eastern North America, second edition. (2016). Alfred A. Knopf, New York. (ISBN: 978-0307957917)

National Geographic Field Guide to the Birds of North America, 7th edition (2017). Nat Geo. (ISBN: 978-1426218354)

Prerequisite: Foundational Courses for the Biology/Ecology major or consent of instructor

Course information on Canvas: <https://unt.instructure.com/login/ldap>

Organization and Learning Objectives:

This course will offer an introductory survey of the biology, ecology, and behavior of birds (Class Aves), with special emphasis on those attributes that are unique to birds. Birds represent a diverse group of ~11,000 known biological species. Lecture topics include the origin of birds, their adaptations for different lifestyles, avian physiology, their individual and social behavior, annual cycle, migration, breeding biology, and their conservation. This course will complement concepts learned in Ecology, Evolution, Physiology, Animal Behavior, and Conservation. Required field trips will be arranged to local birding spots throughout the semester. One weekend field trip to High Island, Texas is scheduled for the weekend of 17-19 April; students may be excused from this trip if it creates a hardship. However, **I strongly recommend that all students in the course take advantage of this amazing opportunity to observe an incredible diversity of birds at a major migratory bird stop-over habitat.** This is an upper-level course for both undergraduate- and graduate-level students.

A separate lab course (BIOL 4056/5056) is required and is integrated with the lecture course. The lab will focus on bird identification (sight & song) and field research.

Field trips will include local hotspots. We will provide updates on the field trips as the semester progresses. Personal binoculars and a field guide are required. A number of basic binoculars are

available for loan... but arrange ASAP if necessary. To accommodate travel time to field sites, field labs will often meet and depart between 6:00 and 7:00 am.

Flexibility Statement: This syllabus provides a plan for the execution of this course; however, because of potential unforeseen events or opportunities, the instructor reserves the right make some reasonable adjustments in the schedule of topics, the material covered, or other aspects of this course. Students will be notified of any such adjustments well in advance.

Grading: Following scale will be used to determine “letter grade” earned for the course:

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

Undergraduate students (BIOL 4055)

Exams 1-2	200 pts (33.3% of total)
Final Exam	100 pts (16.7% of total)
Bird Name assg.	50 pts (8.3% of total)
eBird Observ.	50 pts (8.3% of total)
Lit. Summaries	100 pts (16.7% of total)
Participation	100 pts (16.7% of total)

Graduate students (BIOL 5055)

Exams 1-2	200 pts (23.5% of total)
Final Exam	100 pts (11.8% of total)
Bird Name assg.	50 pts (5.9% of total)
eBird Observ.	100 pts (11.8% of total)
Lit. Summaries	100 pts (11.8% of total)
Research Proj.	200 pts (23.5% of total)
Participation	100 pts (11.8% of total)

The lowest (100 pt) exam score will be dropped for students that have no more than 2 unexcused absences. All three 100-pt exams will contribute to the final grade for students that have more than 2 unexcused absences. Students are required to take all 3 exams to be eligible to drop the lowest exam score.

iClicker Cloud POLLING: Engagement, participation, and interaction are important elements of the learning process. To that end, we will be using iClicker Cloud Polling during our class meetings, so each student must be registered to iClicker Cloud and have a device (computer, smartphone, or tablet) for polling responses in this course.

You may use your own smartphone, tablet, or computer by downloading the iClicker Cloud app – available for iOS and Android.

- 1) You will need to download the iClicker Cloud App on your device from the App store.
- 2) You will need to create an account with iClicker (Visit: <https://www.iclicker.com>), select University of North Texas as your institution, enter the requested information including your EUID, and search for each course in which you will use iClicker Cloud.

This course is listed as follows: SP26 BIOL 4055.001 - Bednarz

Add this course to your iClicker Cloud course list. Click on the course and JOIN during our Tuesday and Thursday live class meetings.

Grading: You will receive 1 point for each answer recorded (participation) and an additional 1 point for each correct answer for a total of 2 points possible per question. Responses to questions posed for which there is no right or wrong answer will receive 1 point for participation. Therefore, you are **receiving credit for participating** and **additional credit for answering correctly**. **Note:** During the course of the semester,

you will have the potential to earn well over 100 points based on polling in iClicker (an estimated 170-190 points). Your participation points will be scaled to a maximum of 100 points by calculating the percentage based on the points earned/total possible points.

Attendance Policy: To learn the material, it will benefit you greatly to attend class, because most of us learn through multiple modalities: visual, tactile, and auditory. When you attend class, you have the benefit of seeing, writing, and hearing the material, as well as the ability to ask questions and hear your peers ask questions. Please note that I will take attendance and monitor your participation. If you do not attend class, you are still responsible for all material covered during that class meeting and you will receive a zero (0) for missed participation points (answering iClicker Cloud Polling questions), or any missed assignment. **If you have more than 2 unexcused absences, you are not eligible to drop your lowest regular exam score.** From past student performance, I have determined that class attendance is essential for students to successfully pass this course. **Therefore, a student that has more than 6 unexcused absences through the course of the semester will receive an automatic “F” in this course.**

Make-up exams will only be allowed for valid medical reasons or official school activities, in which case a verifiable written excuse is required. Students who have a valid reason for missing an exam may PRE-ARRANGE (before the exam) a date for taking the make-up exam. If a student misses an exam without making arrangements prior to the exam date, or misses the arranged make-up exam, the student will obtain a zero grade for that exam. **The instructor has the option of choosing a different test format for the make-up exam.**

Students are expected to attend class meetings regularly and to abide by the attendance policy described above. It is important that you communicate with me, the professor, prior to being absent, so that we can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform me by e-mail if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

If you are experiencing any symptoms of COVID-19 please seek medical attention from the Student Health and Wellness Center (940-565-2333 or ask SHWC@unt.edu) or your health care provider PRIOR to coming to campus.

Face Covering: Use of face coverings and masks are a matter of personal choice.

Changing Bird Names Assignment (50 pts):

The American Ornithological Society (AOS) has recently begun a process to change the official Common Names of about 150 bird species that occur in North America. When we discuss avian taxonomy, I will give you a written assignment to learn about the bird name change process, review a recorded webinar about this process, complete a written assignment related to this ongoing process, and submit a comment to the AOS.

eBird Observations:

Proficiency at bird identification requires practice and developing the requisite skills; using binoculars to observe birds, song recognition, the use of a field guide, and listening quietly. Over the course of the semester, we expect students to spend time birding outside of lab period at a spot appropriate to see birds behaving in their natural habitat. Students should avoid areas heavily visited by people and traffic. Observations should be a **minimum of 60 minutes in length**, allowing identification of species, numbers and behavior. **A minimum of five (undergraduate students) or 10 (graduate students) independent observations on different days** must be uploaded to eBird spread evenly throughout the semester, with a copy of the eBird report sent to the TA. Additional information will be provided in the lab.

Literature Summary Assignment (100 pts):

There are two assignments that require a written summary of current research in Ornithological science. Each summary should not extend beyond a single paragraph (or **400-500 words maximum**; typed, font size = 12, double spaced with one-inch margins). You will submit your assignments online via the course website on Canvas. No printed hardcopies accepted.

Summary paragraph 1 (20 pts): Write a summary paragraph describing a research paper from the primary peer-review scientific literature focused on some aspect of bird biology (e.g., behavior, ecology, evolution, genetics, conservation) published between 2011-2026. See assignment on Canvas for additional information.

Summary paragraph 2 (80 pts): Identify four peer-reviewed research papers that focus on a particular question or theme in avian science (e.g., the effect of artificial light at night on bird migration), in some way, are complementary with each other (i.e., build on each other or provide mutual insight), and write a paragraph that combines a brief overview of each of the studies, along with a short discussion focused on the conceptual threads or arguments that connect the papers. See assignment on Canvas for additional information.

Research Project (graduate students only): Students will be required to write a research paper focused on a topic related to the study of birds. The specific topic will be identified early in the semester following a series of discussions during the instructor's office hours. The research paper will be a minimum of five pages (double spaced with size 12 font) with a separate literature cited section that includes at least 10 peer-reviewed papers. Additional information concerning requirements for the final paper will be provided during the semester including due date.

Disabilities Accommodation: The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please register with the Office of Disability Accommodation to verify eligibility as soon as possible to avoid any delay in implementation. Students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at <https://studentaffairs.unt.edu/office-disability-access>

Academic Dishonesty: Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam. Additionally, the incident will be reported to the Dean of Students, who may impose further penalty. According to the UNT catalog, the term "cheating" includes, but is not limited to: (a) use of any unauthorized assistance in taking quizzes, tests, or examinations; (b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (c) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; (d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor; or (e) any other act designed to give a student an unfair advantage. The term "plagiarism" includes but is not limited to: (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and (b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. Attempts to participate in polling when absent from class are acts of **academic dishonesty** and any student involved in this form of academic misconduct will receive **zero out of 100 points** for their course polling grade.

Policy on the Use of Generative AI Models/Tools: For this class, you are allowed to use generative Artificial Intelligence (AI) tools to: 1) generate ideas, 2) access explanations of material/topics discussed in class, 3) code, 4) analyze and process data, 5) create images or visualize data, and 6) organize your time or tasks. However, one of the objectives of the written assignments is for you to develop effective writing skills and summarize diverse facts and information in a clear and effective scientific manner. Therefore, DO NOT use AI tools to compose/write your assignments. If use of AI is detected in any portion of a submitted assignment, the student submitting such an assignment will receive zero points for plagiarism/unauthorized use of AI tools.

Additional Policies and Procedures:

Tardiness: If you arrive late, please enter quietly and sit down. Do not walk in front of speakers or disrupt the class in any other way.

Extra Help: PLEASE DO NOT WAIT UNTIL THE LAST MINUTE TO ASK FOR HELP. If you are having trouble with this class, please let me know and we can meet by Zoom or in-person during my office hours.

Tentative Schedule:

Date	Topic	Reading
Jan 13	Introduction – Basic Characters of Birds	Pp. xvii-xx11, Ch. 1
Jan 15	Evolutionary Origin	Ch. 2 (24-38)
Jan 20	Evolution of Feathers & History	Ch. 2 (38-46)
Jan 22	Phylogeny & Systematics	Ch. 3
Jan 27	Feathers	Ch. 4 (69-83)
Jan 29	Plumages & Molt	Ch. 4 (84-109)
Feb 3	Basics of Flight	Ch. 5 (113-128)
Feb 5	Structures & Evolution of Flight Video: <i>Mastery of Flight</i>	Ch. 5 (128-138)
Feb 10	EXAM 1 (material covered between 13 Jan – 5 Feb)	
Feb 12	Physiology	Ch. 6 (141-157)
Feb 17	Feeding, Digestion, & Excretory Systems	Ch. 6 (157-169)
Feb 19	Avian Senses	Ch. 7 (172-190)
Feb 24	Bird Brains & Intelligence	Ch. 7 (190-203)
Feb 26	Avian Vocalizations	Ch. 8 (206-220)
Mar 3	Song Learning & Dialects Video: <i>Signals & Song</i>	Ch. 8 (221-235)
Mar 5	Annual Cycles	Ch. 9 (239-259)
Mar 10 & 12	Hallelujah – Spring Break – Go birding!	
Mar 17	Migration	Ch. 10 (262-279)
Mar 19	Evolution of Flight & Navigation	Ch. 10 (279-290)
Mar 24	Social Behavior	Ch. 11 (292-303)
Mar 26	Flocks & Social Foraging	Ch. 11 (409-424)
Mar 31	EXAM 2 (material covered between 12 Feb – 26 Mar)	
Apr 2	Bird Sex	Ch. 12 (314-329)
Apr 7	Egg formation & Clutch Size Video: <i>Demands of the Egg</i>	Ch. 12 (329-338)
Apr 9	Sexual Selection Video: <i>Finding Partners</i>	Ch. 13 (341-357)
Apr 14	Leks, Monogamy, & Extra-Pair Mating	Ch. 13 (347-360)
Apr 16	Breeding systems	Ch. 14 (363-370)
Apr 21	Brood Parasitism & Cooperative Breeding	Ch. 14 (370-388)
Apr 23	Nests & Incubation	Ch. 15
Apr 28	Parental Care Video: <i>Problems of Parenthood</i> ; Review	Ch. 16
Apr 30	Lab Skins Exam	
May 7	Final Exam (material covered between 2 Apr – 28 Apr) Thursday 7:30 – 9:30 am	