



Animal Behavior
BIOL-382 (section 002)
Spring 2025

Lectures: Tuesdays and Thursdays, 4:00- 5:20 pm at CKB G-08

Dr. Gal Haspel (He/Him/Dr)

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Office: NJIT CKB 340 - in the NJIT Biology Office suite

Office Hours: Tuesday 5:30-6:30 pm and by appointment. - in person or via Zoom

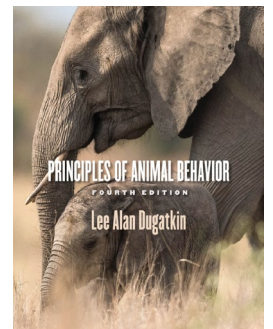
How and why do animals behave the way they do? Where does the variety of behaviors come from? Why are some behaviors more predictable than others? We and other animals behave, and people have noticed and recorded animal behavior for thousands of years. Yet, the modern scientific field of animal behavior, Ethology, is about a century old.

This course will expose students to the broad field of animal behavior. It will include the field's historical underpinnings as well as contemporary theories for a wide variety of behaviors. Behavioral ecology and the evolution of animal behaviors as adaptations will be intertwined throughout the course, with potential applications of knowledge about animal behavior. Students will evaluate existing theories, use current scientific literature and case studies to develop their hypotheses, and determine how different hypotheses related to animal behavior can be tested experimentally.

Pre-requisite: Foundations of Ecology and Evolution (BIOLOGY 205 & 206)

Required Course Materials:

- **Textbook:** *Principles of Animal Behavior* (4th edition) by Lee Alan Dugatkin (ISBN-13: 978-0-226-44838-1). This textbook will be the starting point for all class materials, and I will add additional materials to the course website. It can be purchased at the NJIT bookstore (<https://www.bkstr.com/njitstore/home>) or online (<https://press.uchicago.edu/ucp/books/book/chicago/P/bo34250496.html>). For the eBook, use the code CDDC30 at checkout for 30% off the list price). You can use a hardback, a paperback, or an eBook. You can also use an earlier edition of the textbook; just be aware that some of the information may have changed, and you should consult with me as needed. I will also place a copy of the book on reserve at NJIT Library: <https://library.njit.edu>.
- **Website:** <http://canvas.njit.edu/>, login with your NJIT UCID. **Canvas will automatically assign your email as your NJIT e-mail address, and this will be where all messages sent through Canvas will go.** You can try to change your contact information on Canvas, but you should also ensure you forward your NJIT email to your preferred email (directions on Canvas).
- **Technology Requirements:** You will need a laptop or tablet for class work. You will also need access to Microsoft Office Suite (or similar) for data analysis. NJIT provides students with free access: <http://ist.njit.edu/software-available-download/>.



Course-Level Learning Outcomes:

By the end of this course, students will be able to:

1. Distinguish between the four major categories (mechanism, ontogeny, adaptive value, and phylogeny) of explanations for animal behavior.
2. Explain how behavioral hypotheses are created and formulate hypotheses that explain a given behavior.
3. Explain the procedures used to test these hypotheses and the types of data that can be used when testing hypotheses.
4. Understand the role of natural and sexual selection in the evolution of behavior.
5. Understand the ecological context of an animal's behavioral sequence.
6. Understand some of the mechanisms involved in an animal's production of a behavioral sequence.
7. Explain how animal behavior can be used to understand human behavior.

Grading: 5% Participation & Class Work
10% Discussions
10% Group presentations
75% Exams

Grading Scale	
A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D	55-69
F	0-54

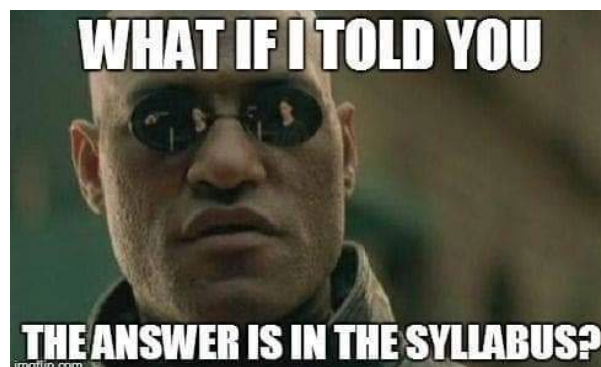
Modes of Assessment:

Participation points are earned during class by answering Poll Everywhere questions, completing in-class assignments, and participating in class discussions. These are not graded, and full credit (5%) is gained by participating in 80% of available tasks (to compensate for missing classes or technological issues).

Discussions of 5 papers that we will read throughout the semester. You will submit an annotation on Canvas for each paper and prepare for class discussion. Once a semester, you will be your group's discussion leader or note-taker and facilitate the discussion with questions you came up with. The discussed papers are course material and included in each exam.

Group Presentations. This assignment aims to 1) have you learn about a particular behavior of interest to you in detail, 2) gain more experience reading the scientific literature, and 3) pass what you have learned on to fellow students through a presentation. Your task is to find a behavior exhibited by 3-4 different, unrelated species, identify the purpose of the behavior and how it might have evolved, and finally, think about how unrelated organisms could have evolved to exhibit the same behavior. 18 groups of 3-4 students will give a 15-minute PowerPoint presentation to the class. Groups can divide the presentation evenly in any way. Groups will be assigned, and some class time will be devoted to group meetings. The presentations will be spread throughout the semester. Detailed instructions will be posted on Canvas. A peer and self-assessment will determine a portion of your presentation grade.

Exams. There will be three equal-weighted exams during the semester. Two exams will focus on discrete units of material (although Exam 2 will build on knowledge from the previous unit) – and then there will be one cumulative final exam. Exams 1 & 2 will be during the semester (midterm exams), and the Final Exam 3 will be taken during the final exam period. The final exam will be cumulative – based on material from the entire semester. Further details about exams will be communicated with you in advance in class or posted to Canvas.



Course outline (specific dates might change; updated schedule posted on Canvas):

DATE	MEETING TOPIC	READINGS & ASSIGNMENTS
R – Jan 23	Course & Content Introduction	
M – Jan 27	Introduction to Animal Behavior	Chapters 1 & 2
R – Jan 30	Evolution of Animal Behavior	
M – Feb 2	Hormones	Chapters 3
R – Feb 6	Neurobiology	
M – Feb 10	Molecular Genetics & Development	Chapter 4 Discussion Paper #1
R – Feb 13	Workshop: Reading Scientific Papers DISCUSSION 1	
M – Feb 17	Cognition & Learning	Chapters 5, 6 & 16
R – Feb 20	Play & Cultural Transmission	
M – Feb 24	Group Presentation Workshop: Picking Topics Mandatory Attendance	Chapter 11
R – Feb 27	Optimality & Foraging Behavior	
M – Mar 3	Predators & Prey	Chapter 12 Discussion Paper #2
R – Mar 6	DISCUSSION 2 Group Presentation Workshop: Work on slides	
M – Mar 10	Exam 1 (Covers Material since the first meeting)	Chapter 7
R – Mar 13	Presentation Groups 1 & 2 Reproductive Behavior I: Sex Differences & Sexual Selection	
	Spring break	
M – Mar 24	Presentation Groups 3 Reproductive Behavior II: Competition & Mate Choice	Chapters 7 & 8
R – Mar 27	Presentation Groups 4 Reproductive Behavior III: Mating Systems & Sexual Conflict	
M – Mar 31	Presentation Groups 5 & 6 DISCUSSION 3	Chapter 9 Discussion Paper #3
R – Apr 3	NJIT wellness day – no classes	
M – Apr 7	Parental Care	Chapters 9, 10 & 15,
R – Apr 10	Presentation Group 7 Kinship & Social Behavior	
M – Apr 14	Presentation Group 8 & 9 DISCUSSION 4	Chapter 10 Discussion Paper #4
R – Apr 17	Presentation Groups 10 & 11 Cooperation	
M – Apr 21	Exam 2 (Covers Material SINCE Exam 1)	Chapter 13
R – Apr 24	Presentation Groups 12 & 13 Communication I	
M – Apr 28	Presentation Groups 14 & 15 Communication II	Chapter 13 Discussion Paper #5
R – May 1	Presentation Groups 16 & 17 DISCUSSION 5	
M – May 5	Presentation Group 18 Habitat Selection, Territoriality & Migration	Chapter 14
T – May 6	Review for Final Exam	
5/3 – 5/9	Cumulative Final Exam 3 (exact date and time will be announced)	

Class Policies:

Inclusiveness: I am committed to empathy, equity, and inclusion across all dimensions of identities, from gender, ethnicity, country of origin, age, to religion. This commitment requires time and attention, but it is worth our while and the right thing to do. As a first-generation college student and a recently naturalized immigrant, I know the uneven playing field many students, faculty, and staff face. On the other hand, I benefit greatly from collaborations with students, peers, and mentors of diverse backgrounds and identities. NJIT commits to a policy of nondiscrimination based on race, sex, sexual orientation, age, religion, ethnic origin, handicap, or veteran status in its employment policies, educational programs, and activities under university control. <https://www.njit.edu/diversityprograms/university-non-discrimination-policy>



Cell phones and social media: Please leave the classroom if you need to make an emergency phone call or update your social media. Cell phone use during quiz or exam times is prohibited and will be considered a violation of academic integrity.

Makeup Exam Policy: There will be no makeup exams, except in rare situations where the student has a legitimate reason for missing an exam, including illness, death in the family, accident, requirement to appear in court, etc. The student must notify the Biological Sciences office and the Instructor that they will miss an exam. In all cases, the student must present proof of missing the exam not to the instructor but instead TO THE DEAN OF STUDENTS OFFICE, e.g., a doctor's note, police report, or court notice clearly stating the date and times.

Academic Integrity: The University Code on Academic Integrity is strictly enforced! *Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree to which you are working. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at <http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>. Rutgers has similar rules (<http://www.ncas.rutgers.edu/oas/ai>).*

*Please note that my professional obligation and responsibility is to report academic misconduct to the Dean of Students Office. **Any student found violating the code by cheating, plagiarizing, or using any online software inappropriately will result in disciplinary action. This includes a failing grade of XF.** If you have any questions about the Code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu*

Turnitin will scan all submitted material for plagiarism. Please ask me if you are unsure whether your action will violate academic integrity.

Communication: I prefer conversation during class or office hours and messages via the Canvas inbox. If you talk to me in person, send a follow-up message or email. Always indicate your full name and the course as part of the subject line. I will respond to messages and emails as soon as possible during regular business hours. Office hours are open after the lecture or at my office; no need an appointment. Message me through the Canvas inbox to schedule an appointment in person or via Zoom.

Bonus track: How to email your professor

<https://medium.com/@lportwoodstacer/how-to-email-your-professor-without-being-annoying-af-cf64ae0e4087>

NJIT Support Resources

Emergency Support

Crises Happen: If you experience a life emergency and are unsure which support services to turn to, NJIT Public Safety can connect you to emergency support systems - call 973.596.3111. For medical, psychological, or psychiatric emergencies, you can also call University Hospital Crisis at 973.623.2323.

If you want to report a concern about another student's well-being, you can also contact the NJIT CARE Team (<https://www.njit.edu/care/>) or the Dean of Students Office (973.596.3466).

Mental Health and Stress Management

Center for Counseling and Psychological Services (C-CAPS) is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, or in need of support, services are available: <https://www.njit.edu/counseling/gethelp>

Special Accommodations

If you have a disability or a personal circumstance that will affect your learning in this course, please let your instructor know as soon as possible so that we can discuss the best ways to meet your needs. Any student who needs accommodation for disabilities should also contact the Office of Accessibility Resources and Services (OARS): <https://www.njit.edu/studentsuccess/accessibility>