

Biology 4324: Genetic, Environmental and Evolutionary Bases of Animal Behavior

Lectures for Spring 2022:	Pre-recorded (i.e., asynchronous) on Blackboard.
Discussion (optional):	Tue/Thu, 10:30–11:50 am, Live (i.e., synchronous) on Blackboard Collaborate
Office hours:	By appointment, via Blackboard Collaborate
Instructor:	Dr. Arshad M. Khan, voice mail: (915) 747-8436; amkhan2[at]utep.edu
Graduate student TA:	Ms. Marina Peveto, mapeveto[at]miners.utep.edu

Definitions and Objectives

Animal behavior, in the most general sense, refers to what animals do. Under such a broad definition, an animal's behaviors coordinate its internal systems (neural, hormonal, metabolic) with the external world in a manner that ensures survival. In this course, we will explore how animal behavior is organized within a variety of contexts: feeding, habitat selection, migration, territoriality, predation, communication, mating and reproduction, parental care, and social behavior. Examples will be drawn from representatives throughout the animal kingdom, from insects to humans. We will also emphasize throughout the course how animal behavior is studied at many different levels of analysis, from small molecules, to large scale models of animal interactions, and how much of the ways in which scientists study behavior is fueled by our understanding of how natural selection pressures help shape behavior in individuals across many generations. The course is intended for advanced undergraduate students pursuing careers in natural history, evolution, ecology or ethology. It is also a useful adjunct for students interested in pursuing studies in organismal biology, neuroscience and physiology; where internal mechanisms controlling animal behaviors are emphasized.

Course organization and grading

Listening to the online lectures is strongly recommended. Although slides from lecture presentations will be posted, they alone will not suffice in preparing you for the workbooks. Four workbooks, in lieu of exams, will each contribute 25% toward your total grade (100% total). Note that there is no “final exam”, just four equally weighted workbooks, each of which is non-overlapping and non-cumulative. *Workbooks will be open to complete during a week-long block (maybe even longer) and will be open-book and open-note tests without need of a lockdown browser.* Grading is on a straight scale: A (90–100), B (80–89), C (70–79), D (60–69), F (below 60). Extra credit work will also be announced. Discussion sessions will be live for you to attend via Blackboard Collaborate, but attendance is optional and will not count towards your final grade. They are meant to give you a chance to ask Dr. Khan or Ms. Marina Peveto (the grad student TA) questions about the lecture videos or the workbook questions.

Text

Animal Behavior, Eleventh Edition by Drs. Dustin R. Rubenstein and John Alcock. (2018); Published by Oxford University Press. Available in the bookstore.

Prerequisites

Students must be undergraduates in good standing who have completed introductory biology.

Policy on Academic Dishonesty

Students caught cheating or plagiarizing will receive disciplinary action and will be reported to the Dean of Students.

Accessibility

If you have or suspect you have a disability and need accommodations, contact the Center for Accommodations and Support Services (CASS) at (915) 747-5148 or e-mail their office at cass@utep.edu. They are located on the web at <http://sa.utep.edu/cass/>.

COVID-19 Policy

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms, and please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing. The Centers for Disease Control and Prevention recommend that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

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<u>Week</u>	<u>Week of</u>	<u>Lecture Set</u>	<u>Topic Covered</u>	<u>Reading(s)</u>
1	Jan 17	1	Introduction to Animal Behavior	Syllabus, Ch. 1
2	Jan 24	2	The Integrative Study of Behavior	Ch. 2
3	Jan 31	3	Genetic/Developmental Bases of Behavior	Ch. 3
4	Feb 7	3	Genetic/Developmental Bases of Behavior (cont.)	Ch. 3
	Feb 11–21		Workbook #1 (covering Lecture Sets 1–3) <i>The open-book, open-note workbook will be available to take online starting on Fri morning, Feb 11 and will be due by 11:59 pm on Monday night, Feb 21</i>	
5	Feb 14	4	Neural Basis of Behavior	Ch. 4
6	Feb 21	4	Neural Basis of Behavior (cont.)	Ch. 4
7	Feb 28	5	Physiological Basis of Behavior	Ch. 5
8	Mar 7	5	Physiological Basis of Behavior (cont.)	Ch. 5
9	Mar 14		SPRING BREAK	
	Mar 18–28		Workbook #2 (covering Lecture Sets 4 & 5) <i>The open-book, open-note workbook will be available to take online starting on Fri morning, Mar 18 and will be due by 11:59 pm on Monday night, Mar 28</i>	
10	Mar 21	6	Avoiding Predators & Finding Food	Ch. 6
11	Mar 28	6	Avoiding Predators & Finding Food (cont.)	Ch. 6
12	Apr 4	7	Territoriality & Migration	Ch. 7
13	Apr 11	7	Territoriality & Migration (cont.)	Ch. 7
	Apr 14–25		Workbook #3 (covering Lecture Sets 6 & 7) <i>The open-book, open-note workbook will be available to take online starting on Thu afternoon, Apr 14 and will be due by 11:59 pm on Monday night, Apr 25</i>	
14	Apr 18	8	Animal Communication	Ch. 8
15	Apr 25	8	Animal Communication (cont.)	Ch. 8
16	May 2	8/film	Animal Communication [Film Assignment]	Ch. 8
	May 6–16		Workbook #4 (covering Lecture Set 8 & Film) <i>The open-book, open-note workbook will be available to take online starting on Fri morning, May 6 and will be due by 11:59 pm on Monday night, May 16</i>	