

**Biology 4324 (CRN 36342):
Genetic, Environmental and Evolutionary Bases of Animal Behavior**

Summer I, 2021

Lectures: *Online, asynchronous*

Discussion: *Optional, online synchronous (via Blackboard Collaborate): T, Th, 3:00–4:20 pm*

Instructor: Dr. Sivasai Balivada [Office hours: *By appointment only*; sbalivada [at] utep.edu]

Co-instructor: Dr. Arshad M. Khan [Office hours: *By appointment only*; amkhan2 [at] 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

Watching the pre-recorded lecture videos is strongly recommended. Attendance to the synchronous online discussion sections is also recommended, but not required. Four open-book, open-note asynchronously-posted workbooks will each contribute 25% toward your total grade. *Note that there is no "final exam", just four equally-weighted workbooks that you complete online at your own pace, each of which is non-overlapping and non-cumulative.* Grading is on a straight scale: A (90–100), B (80–89), C (70–79), D (60–69), F (below 60).

There will be an extra credit film assignment offered to the class as well (also online).

Required Text

Animal Behavior, 11th Edition by Drs. Dustin R. Rubenstein and John Alcock. (2019); Published by Oxford University Press.

Prerequisites

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

Policy on Academic Dishonesty

Students caught cheating or plagiarizing 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 Mon – Fri, 8 am – 5 pm; in Union Building East, Rm. 106; and on the web at <http://sa.utep.edu/cass/>.

<u>Week</u>	<u>Date</u>	<u>Lecture Videos</u>	<u>Topic Covered</u>	<u>Chapter(s)</u>
1	7 June	1.1, 1.2 2.1–2.3 3.1	Introduction The Integrative Study of Behavior Genetic/Developmental Bases of Behavior I Workbook 1 [Lecture vids 1.1, 1.2, 2.1–2.3, 3.1]	1 2 3
2	14 June	3.2–3.4 4.1–4.3	Genetic/Developmental Bases of Behavior II Neural Basis of Behavior I Workbook 2 [Lecture vids 3.2–3.4, 4.1–4.3]	3 4
3	21 Jun	4.4, 4.5 5.1–5.4	Neural Basis of Behavior II Physiological Basis of Behavior Workbook 3 [Lecture vids 4.4, 4.5, 5.1–5.4]	4 5
4	28 Jun	6.1–6.3 7.1–7.4	Avoiding Predators & Finding Food Territoriality & Migration Workbook 4 [Lecture vids 6.1–6.3, 7.1–7.4]	6 7
