

## **Biology 4324: Mechanistic and Functional Bases of Animal Behavior**

Note – This syllabus was updated August 24, 2022

*Instructor:* Dr. Brett Seymoure (He, Him, His), voice mail (TBD); bmseymoure[at]utep.edu  
*Dr. Seymoure's Office Hours Biology Building 402:* Tu 3:00pm–4:00pm, W 3:00pm–4:00pm  
*Fall 2022 Lectures:* Tuesday and Thursday 1:30pm – 2:50pm; Location: EDUC 303

*Course:* 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 and reproduction. In this course, we will explore how animal behavior is organized (*i.e.* “The ABC's of Animal Behavior”) within a variety of contexts: feeding, habitat selection, migration, territoriality, predation, communication, mating and reproduction, parental care, and social behavior. We will study ubiquitous and unique (crazy!) behaviors across the animal kingdom as well as from plants and fungi for comparison. A main emphasis of this course is how animal behavior is studied at different levels of analyses - from small molecules to large scale models of animal interactions – and how natural selection has selected for adaptive behaviors. This course is intended for advanced undergraduate students pursuing careers in animal behavior, psychology, evolution, physiology, neuroscience, biomedical research, conservation, and natural history. As most of biomedical research depends on testing medical treatments on non-human animal models, it is important that biomedical researchers understand the basis of animal behavior.

Class sessions will focus on active learning techniques and thus attendance is required. Although there will be short lectures throughout each class period, you will be frequently working in pairs or larger groups, and will be actively engaged in real-time assessment. At the end of each class session, each student will be highly encouraged to submit a “muddy-point clarification” anonymously via iClicker, upon which the student will be able to express any concerns anonymously regarding to the material and/or the course. Please use this iClicker opportunity to bring any confusion or issues you may be having with the course to my attention. Also, please let me know if there is something you really like! The “muddy-point clarification” will greatly help me in personalizing your educational experience throughout this course.

*Prerequisites:* Undergraduates in good standing who have completed introductory biology.

*Required Text:* Animal Behavior 11<sup>th</sup> Edition, Rubenstein & Alcock. Sinauer Publishing.

Note: Material in this text could be assessed during exams and other assignments without being directly covered in class. I suggest you read the assigned reading before the class and then review the reading after lectures. Furthermore, I realize that textbooks are expensive and thus this is an older edition to reduce the costs. With that being said, I suggest finding a partner or two and sharing the book and cost of the text as one copy can easily serve several individuals.

*Accessibility:* If you have or suspect you have a disability and need accommodations, please contact the Center for Accommodations and Support Services (CASS) at (915) 747-5148 or email their office at cass[at]utep.edu. They are located on the web at [www.sa.utep.edu/cass/](http://www.sa.utep.edu/cass/).

*Inclusion, Diversity, and Equity within this course:* The department of biological sciences at UTEP and I embrace an intellectual community enriched and enhanced by diversity along numerous dimensions, including race, ethnicity, national origins, gender identity, sexuality, class, and religion. I am especially committed to increasing the representation of populations that have been historically excluded from participation in U.S. higher education.

I welcome students from around the country and the world, and their unique perspectives, which enrich our learning community. We support students whose primary language is not English. I am available for you during my office hours and by appointment to aid in understanding the material in a more catered approach to your learning needs. Please use my office hours as a resource.

In an ideal world, science would be objective. However, much of science depends on human perception and thus is subjective. Furthermore, much of the human perception has historically been built upon a small subset of privileged voices. I acknowledge that the material presented in this course, has mostly been developed by white westerners and men. Most importantly, I also acknowledge that research covered in this class resulted from colonial and racist governmental policies, and in fact, some of the research presented here led to further systemic racism and oppression. My goal is to recognize these atrocities so that our current generation of scientists and future scientists can integrate a diverse set of experiences for a more comprehensive understanding of science and thus a more equitable society. Lastly, I realize that my own privilege and experiences have led to my own inherent biases. Please contact me (in person, electronically, anonymously) if you feel that the course is not inclusive and/or have any suggestions to improve the quality and inclusivity of the course materials.

To create a more inclusive learning environment for you that supports your diverse experiences and perspectives, and honors your identity (including race, gender, class, sexuality, religion, ability, etc.):

Please inform me of your pronouns.

If you feel that your performance in the class is being impacted by experiences outside of class, please don't hesitate to talk to me (in person, electronically). I am a resource for you. Also, remember that you can submit anonymous feedback through "muddy point clarification" or slide a note under my office door.

I foresee that I will always be learning new techniques and approaches to create a more inclusive and effective learning environment. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it (again anonymous feedback is always appreciated).

*Policy on Academic Integrity and Academic Dishonesty:* Please familiarize yourself with UTEP's policy on Academic Integrity: <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>. Students caught cheating or plagiarizing will receive disciplinary action and will be reported to the Dean of Students.

*Attendance Requirements:*

- 1) Attend all lectures. You are permitted 8 absences – I understand that life happens, and classes may not always be able to be your highest priority. The ninth absence will reduce your participation to 0 points and then each additional absence will drop your overall class grade by 10%. You do not need to notify me of your 8 absences; these are freebies and the high number of absences allowed is to enable self isolation in the case of COVID or other diseases. If you foresee missing more than 8 classes due to extracurricular activities (e.g. Varsity Athletics, or Independent Research) or foreseen family/medical obligations – please inform me of these before the third week of the semester. We may be able to work through your other priorities. If these foreseen absences are not brought to my attention before the third week, it is unlikely that we will be able to plan other exercises and participation that will result in fulfillment of your required attendance in this course.

COVID-19 – if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms, please stay home and let me know as soon as possible so that we can accommodate your learning in this course. As you will need to isolate for up to two weeks, we will work through options so that you can maintain your participation in the course as well as stay current with the material. It is up to you to inform me of your circumstance.

If you have tested positive for COVID-19, you are encouraged to report your results to [covidaction@utep.edu](mailto: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 vaccinated. If you need the vaccine or boosters, it is widely available in the El Paso area. For more information about the current rates, testing, and vaccinations, please visit [www.epstrong.org](http://www.epstrong.org).

*iClickers* – This course will rely upon iClickers immensely, not only to check attendance but more importantly to check for understanding of the material. Likely, each class will start off with a clicker question or two that covers the reading assignment and previous material. You are responsible for having iClicker technology in the classroom – mobile devices are welcome as iClickers. Furthermore, as the iClickers are for checking material understanding, you will receive 8 points per day for answering all of the questions and 2 points that are based upon the correct answer. All of these points will be scaled to be worth 10% of the entire course grade. Lastly, I do not intend to always use the focus mode of iCicker, but I do reserve the right to include information from the focus mode into my overall calculation of iClickers.

*Grading:*

Class and Group Participation (iClickers)	10%
Ethogram and 4 Hypotheses and Predictions	15%
Workbook 1	20%
Workbook 2	25%
Final Workbook	30%

*Workbook Assessments:* Instead of in-class exams, which have been shown to increase anxiety and decrease inclusion and equity – you will be assessed on your comprehension of the material through four open text, open note workbooks. Although discussion of the questions and answers with your classmates is permitted (dare I say encouraged), you are to work on and write your responses alone. You do not want to have the same or very similarly worded answers to those of your peers as it may indicate that your responses do not solely belong to you. I reserve the right to submit the workbooks to a plagiarism detector such as Turnitin.com.

As the course itself is comprehensive and builds upon itself each week, the workbooks are cumulative in nature and understanding of the material from the first week will be needed for every workbook including the final workbook. However, do remember that you are welcome and encouraged to use your text, notes, and discussion with your classmates when preparing your responses – just be sure to use your own words! Lastly – as these workbooks are comprehensive and are likely to be a novel format to you, the points for each workbook will increase by 5% points of the total grade. Thus, realize that 55% of your grade in this course comes from the last two workbooks.

Note – As the workbooks are available over 4 days (Friday-Monday), there will be no opportunity to make them up if you miss them. If you do foresee an issue with the timing of the workbooks, please let me know by the third week of the course (by September 8) and we may be able to arrange something.

Grading is on a straight scale: A (100-90.0); B (89.9-80.0); C (79.9-70.0); D (69.9-60.0); F (below 60.0). Note – there will be no rounding up.

Make-ups: Overall – there will be no opportunities to make-up an assignment or workbook that was missed.

*Extra-credit opportunities:* 1) Throughout the semester there are several departmental seminars in the Biology and Psychology that cover animal behavior. You are highly encouraged to attend these seminars. I will do my best to bring them to your attention. You are challenged to write a constructive review of a behaviorally related seminar. As this is an extra-credit opportunity, I will leave the format up to your best judgement, but I will read no more than 500 words. Your constructive review could earn up to 2% of course grade with a limit on 1 seminar review per student. Again, these constructive reviews must be solely your work.

2) Animal behavior is such a cool topic that there are hundreds of nature documentaries and videos available. For 2% of the course grade, choose a nature video (there are many available on Netflix, Hulu, cable television, and for check out at local libraries) and select a clip showing an animal behavior. Work through hypotheses and predictions explaining this behavior for each of the 4 levels of analysis: causation, development, function, and evolutionary. Again, I will not read more than 500 words.

*Contesting:* If you would like to contest the wording of an assessment question or the answer to a question, email me. I will not listen nor remember the contesting if you bring it to my attention during class. If you can appropriately present your case, can rationally explain your point of view, you likely deserve credit (not guaranteed). Thus, if you want to contest the scoring of an assignment, email me and I will review your argument for the assignment, however, this will entail an entire review of the assignment and could result in regrading, with the potential for a lower grade. Contested grades are to be filed within one week of the grade being returned.

*Tentative Lecture Schedule:*

<i>Week</i>	<i>Dates</i>	<i>Topic</i>	<i>Readings</i>
1	8/23 & 8/25	Introduction to Animal Behavior & Integrative Study of Behavior	Syllabus, Ch. 1 & 2
2	8/30 & 9/1	Integrative Study of Behavior	Ch. 2
3	9/6 & 9/8	Developmental and Molecular Bases	Ch. 3
4	9/13 & 9/15	Neural Basis	Ch. 4
	9/19	Ethogram H & P Tentatively Due	
5	9/20 & 9/22	Physiological & Endocrine Bases	Ch. 5
	9/23 – 9/26	Workbook 1	Ch. 1-5
6	9/27 & 9/29	Avoiding Predators, Finding Food, & Territoriality	Ch. 6 & 7
7	10/4 & 10/6	Movement & Communication	Ch. 7 & 8
8	10/11 & 10/13	Communication & Reproduction	Ch. 8 & 9
9	10/18 & 10/20	Reproduction & Mating Systems	Ch. 9 & 10
	10/28 – 10/31	Workbook 2	Ch. 1 - 9
10	10/25 & 10/27	Mating Systems	Ch. 10
11	11/1 & 11/3	Parental Care	Ch. 11
12	11/8 & 11/10	Social Evolution	Ch. 12
13	11/15 & 11/17	Social Behavior & Sociality	Ch. 13
14	11/22	Human Behavior	Ch. 14
15	11/29 & 12/1	Conservation Behavior, Hot Topics, & Review	Provided
	12/3 – 12/6	Final Workbook	Ch. 1 – 14, Provided Materials