

ORGANISMAL BIOLOGY

Course Syllabus for BIOL 1306 CRN 14648 Fall 2024

Instructor

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Scheduled Class Time and Room

The class will meet Tuesday and Thursday, 10:30-11:50 a.m. in the Undergraduate Learning Center (UGLC) 346.

Class expectations and delivery method

This class is being conducted in-person and you are generally expected to come to class. However, there will be some flexibility in how often you come to class, with the possibility to miss up to 2 weeks of class even if you choose the participation grading option (see below).

Office Hours

Office hours are by appointment.

Course Objectives

Understand how evolution drives: (1) diversity of life on Earth (2) ecological interactions among organisms and their environments, and (3) structure and function of organisms.

CogBooks

Instead of a traditional textbook, we will use the CogBooks platform. You can either purchase a code at the UTEP bookstore or pay for CogBooks online when you begin our course on Blackboard. There will be a link to CogBooks through our Blackboard shell. Once logged in for the first time, a Payment Gateway Process screen will appear, and you will be asked to either enter a code (purchased from the bookstore) or purchase the CogBooks courseware. Once you have purchased or entered a code, you will then have access to the CogBooks courseware for the entire semester. CogBooks is not a traditional textbook. It is software that guides you through various readings and activities that cover concepts and materials in our course. There are tutorial videos for navigating in CogBooks that will be available via a Blackboard announcement.

Topical Outline

- 1) Evolution & Phylogenetics
- 2) Biological Diversity
- 3) Plant structure and function
- 4) Ecology
- 5) Animal structure and function

Learning outcomes – Concepts

- 1) Describe how Darwin convinced the scientific community of the importance of evolution. More broadly, understand how scientific knowledge is generated by achieving consensus among different types of evidence.

- 2) Explain how evolution drives life on Earth at small and large scales.
- 3) Identify major groups of organisms within the tree of life and describe its structure. Be able to reason about the evolutionary history of a group including determination of traits in ancestral lineages.
- 4) Explain the principles of anatomy and physiology in plants and animals.
- 5) Describe how organisms interact with each other and with their environment.

Learning outcomes – Skills

- 1) Gain improved proficiency in reading graphs, interpreting mathematical equations, and interpreting box and arrow diagrams depicting biological phenomena.
- 2) Be able to interpret phylogenetic trees showing relationships among lineages.
- 3) Master ~200 biology vocabulary terms.
- 4) Grow understanding about biological inquiry, both in how scientists apply it, and in how to ask questions about biological knowledge.

Grading

Exams

All students will take three online exams (30 points) and 2 in-class exams (midterm and final: 45 points each). The lowest score on these five exams will be dropped and the remaining percentage of possible points will comprise the exam score. Because the lowest exam will be dropped, **there are no makeup exams**. The 30-question online exams will be open-book, timed Blackboard exams that will be available for several days. These exams can be started any time within the window, but once they begin, there will be a set time (for example, 60 min) to finish. The midterm and final will be cumulative. These exams will occur in-person and will be administered as closed-book e-exams in class. You will be required to come with a laptop with the Respondus Lockdown Browser installed. This means you need a functional, fully charged laptop with the software installed or need to check out a laptop from the library for each exam. Further instructions can be found at: https://www.utep.edu/technologysupport/Files/docs/BB_E-Exams.pdf

Non-exam grades

The exams can account for 100% of your grade if you wish. (Maybe you are GREAT at taking exams!). However, the weight of the exams will be reduced if you complete either of the following optional assignment categories (CogBooks, participation). In doing this, you can down-weight your exam scores to 75% or 50% (if you do both) of the total. Essentially, you can do one or both of the following:

1. CogBooks – replaces 25% of exam grade

Most weeks, you will complete one or more CogBooks modules. The modules are designed to increase your familiarity with new material, and thus should be completed **before class (i.e., due at 10:30 a.m. on the due date)**. The modules will have you conduct activities and will ask questions to determine if you feel comfortable with the topics. This is not graded on a performance scale; you either earn credit for doing it or you do not. You will only receive full credit for the assessment if you complete them at the indicated time. Late submissions will NOT be accepted, but I will drop your 2 lowest CogBooks scores at the end of the semester.

2. Participation – replaces 25% of exam grade

Class will be held in UGLC 346, 10:30-11:50 a.m. Tuesday and Thursday. Class will be a mix of lecture and more interactive components such as Q&A, clarification of concepts, discussion of interesting topics or examples, and interactive questions using iClicker. The main way to earn participation points is through in-class answers to the iClicker questions. Each class session is worth the same amount, no matter how many iClicker questions are asked. Typically, there will be 1-3 iClicker questions per class. They may take different formats (multiple choice, short answer, etc.). Most will be graded on participation, but some may require the correct answer for credit (I will clearly state this when I put up the question). In addition to iClicker questions, there may be occasional other in-class activities that contribute to the participation grade that day. Remember, each class is worth the same. **You can miss up to 4 classes with no penalty.** You do not need to explain why you missed class. In fact, I prefer if you do not, and while I will listen patiently if you do, it will not change the policy with respect to your grade.

Grading Scale: You will be assigned a letter grade for the course on the following scale: A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: Less than 60. I will round grades to the nearest percentage point, so an 89.5% is an A but an 89.4% is a B. At the end of the semester, I will automatically calculate your most favorable grade including all four options (1) only exams, (2) exams and CogBooks, (3) exams and participation, and (4) exams and CogBooks and participation. The highest of the four will be your grade in the course. For example, if you do all of the CogBooks modules and get full credit and your exam score is 75, you would receive a final grade of $25 + 75 * 0.75 = 81.25$ which is a B.

Academic dishonesty and AI: Academic dishonesty will not be tolerated. It includes, but is not limited to, cheating, plagiarism, collusion, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. If you have any questions regarding the university policy on scholastic dishonesty please contact the Dean of Students. There are no normal writing assignments in this class, so the use of AI for that purpose is not applicable. You are allowed and encouraged to use AI for studying purposes or as a resource on the three open-book exams. You are not allowed to use AI (or any other resource) during the closed-book midterm and final exams.

Drop date. The UTEP Fall 2024 drop deadline is November 1, 2024. The College of Science will remain aligned with the University and not approve any drop requests after that date.

COVID-19 precaution statement

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. **DO NOT COME TO CLASS SICK.** With the capability to miss up to 8 classes (4 weeks of class, ~1/4 of the class), I expect you will have enough flexibility to work around any illness you may experience. If you need to miss more class than that, I will likely encourage you to medically withdraw from the class, but please talk to me.

Tentative Schedule of Topics

#	Date	Course Topic		CogBooks Module	Exams
1	August 27	Syllabus & Introduction			
2	August 29	Evidence for Evolution			
3	September 3	Evidence for Evolution	1.1	Evolution	
4	September 5	Microevolution and Macroevolution	1.2	Microevolution and Macroevolution	
5	September 10	Microevolution and Macroevolution	1.3	Microevolution and Macroevolution	

6	September 12	Microevolution and Macroevolution	1.4	Microevolution and Macroevolution	EXAM 1
7	September 17	Microevolution and Macroevolution			
8	September 19	Phylogenetics	1.5	Phylogenies and the History of Life	
9	September 24	Phylogenetics			
10	September 26	Animal Diversity	2.1	Animal Diversity	
11	October 1	Animal Diversity			
12	October 3	Animals/Protists			EXAM 2
13	October 8	Fungi			
14	October 10	Bacteria/Origins	2.2	Prokaryotes: Archaea & Bacteria	
15	October 15	Origins/Viruses	2.3	The Origins of Life	
16	October 17	<i>Midterm</i>			MIDTERM
17	October 22	Plant Diversity	3.1	Plant Diversity	
18	October 24	Plant Structure and Function	3.2, 3.3	Plant Reproduction, Plant Form and Physiology	
19	October 19	Plant Structure and Function	3.4	Photosynthesis, Soil and Plan Nutrition	
20	October 31	Plant Structure and Function	3.5		
21	November 5	Ecology			
22	November 7	Ecology	<i>Non-CogBooks</i>	<i>Supplemental module on population ecology</i>	
23	November 12	Ecology	4.1	Species interactions and succession	
24	November 14	Ecology	4.2	Biomes	EXAM 4
25	November 19	Animal Structure and Function	5.1	Homeostasis	
26	November 21	Animal Structure and Function	5.2	Body Tissues	
27	November 26	Animal Structure and Function			
	November 28	THANKSGIVING BREAK			
28	December 3	Animal Structure and Function	5.3	Behavior	
29	December 5	Conclusion			
	December 12	FINAL EXAM (10:00am–12:45pm)			FINAL