

ORGANISMAL BIOLOGY

Course Syllabus for BIOL 1306-003 CRN 10506 Fall 2024

Instructor

Dr. Mary Janecka

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Office: B317 in the Biology Building

Schedule Class Time and Room

Monday/Wednesday 3:00 pm to 4:20 pm

Undergraduate Learning Center 346

Office Hours

Monday 1:00 to 3:00 pm in my office.

If you cannot make this time, please send an email to schedule an appointment.

COURSE OBJECTIVES

Understand how evolution drives: (i) diversity of life on Earth (ii) ecological interactions among organisms and their environments, and (iii) physiology of organisms

REQUIRED TEXT:

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 students will be asked to either enter a code (purchased from the bookstore) or purchase the CogBooks courseware. Once students have purchased or entered a code, they will then have access to the CogBooks courseware for the entire semester. CogBooks is not a textbook. It is software that guides students through various readings and activities that cover concepts and materials in our course. There is a tutorial video for navigating in CogBooks here:

<https://youtu.be/QGiTUT8ohh8>

CogBooks is found under 'Content' on the left-hand side of Blackboard.

TOPICAL OUTLINE

1. Evolution
2. Phylogenetics
3. Diversity
4. Plant Form and Function
5. Ecology

6. Animal Form and Function

LEARNING OUTCOMES

After completing this course, you should be able to:

1. Explain how evolution drives the diversity of life on Earth.
2. Identify major plant, animal, and microbial lineages.
3. Interpret phylogenetic trees showing relationships among lineages.
4. Describe the link between structure & function for the anatomy and physiology of plants and animals.
5. Identify earth's major biomes and ecosystems.
6. Analyze biological systems on a variety of scales, from organismal to global.
7. Master biological concepts using written and lecture materials.
8. Understand and use scientific vocabulary related to organismal biology.

GRADING

Exams 40%

All students will take four exams. Exams are multiple choice, fill in the blank and short answer questions.

****E-Exam****

All exams will be given through Blackboard's e-exam program and with **Respondus Lockdown Browser** but will be **taken IN class** on the day the exam is scheduled.

Final Project - 30% (you choose 2 of the three options)

Together you and I will agree on a project. You can bring ideas, and I may make suggestions. You must email me your project idea by **October 30th**. Some project ideas include but are not limited to: 10 minute presentation, a book report (suggestions at the end of the syllabus), poster created in Canva on an approved research paper of your choice, detailed infographic study guide created in Canva on a class topic of your choice (i.e. a parasite life cycle). **(I am open to your ideas- seeing your creativity and interests is my favorite part of the semester!)**

CogBooks Modules - 30% (you choose 2 of the three options)

Each week, you will have several CogBook submodules to complete before class. These assessments are posted on Blackboard but are linked through your purchase of "CogBooks." The modules are designed to increase your familiarity with new material, and thus should be completed before class. The modules will have you conduct activities and will ask questions to determine if you feel comfortable with the topics. The CogBooks software will walk you through this and will make recommendations for where to go for review if you are not comfortable with the material. 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 it at the indicated time. Late submissions will NOT be accepted.

In-class Participation - 30% (you choose 2 of the three options)

Polls - 30%

Using the iClicker Reef App. Points will be for participation only.

****You can miss up to 4 classes and still receive full participation credit.****

YOU CAN REPLACE THE COGBOOKS grade with in-class participation

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. Your grade will be based on the most favorable combination of Exams, Final Projects and either CogBook Modules, or Participation.

ACADEMIC DISHONESTY

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.

ATTENDANCE

If you miss a class, it is your responsibility to obtain any class notes or pertinent information from a fellow student. In other words, you do not need to contact me every time you miss a class. I will post the lecture materials on Blackboard each week. Regular attendance will be necessary for success in this class.

DROP DATE

The UTEP Fall 2023 drop deadline is **November 1st, 2024**. The College of Science will remain aligned with the University and does not approve any drop requests after that date.

DISABILITY STATEMENT

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

CODE OF CONDUCT

Be considerate, respectful, and collaborative. Communicate openly with respect for others, critiquing ideas rather than individuals. Avoid personal attacks directed toward other students. Be mindful of your surroundings and of your fellow participants.

COVID-19 PRECAUTION STATEMENT

If you are sick, stay home. ****You can miss up to 4 classes and still receive full participation credit.**** You don't need to contact me if you miss a class. If you miss more than 4 classes, contact me.

Schedule of Topics

DATE TOPIC CogBook Module (except where noted)

August 26 *Introduction & Syllabus begin Evolution.*

August 28 Evolution: Evolution

September 2 **LABOR DAY- NO CLASS**

September 4 Evolution: New Species

September 9 Evolution: Behavior

September 11 Evolution: Evolution of Populations Part 1

September 16 Evolution: Evolution of Populations Part 2 (no CogBook module)

September 18 EXAM 1

September 23 Phylogenetics: Phylogenetics & History of Life

September 25 Phylogenetics: Origin of Life

September 30 Viruses: Viruses

October 2 Bacteria, Archaea Bacteria & Archaea

October 7 Diversity – Microbial Eukaryotes Fungi

October 9 Protists, Parasites, and Introduction to Parasite Life cycles (no CogBook module for parasites)

October 14 EXAM 2

October 16 Plants: Plant Diversity

October 21 Plants: Plant Form & Physiology

October 24 Diversity – Vertebrates Animal Diversity

October 28 Diversity – Host-Parasite Co-evolution and Diversity (no CogBook module)

October 30 Review- **Final Project Ideas must be submitted to me by this date**

November 1 **Fall Drop/Withdraw Deadline**

November 4 Exam 3

November 6 Ecology – Populations & Communities- Intro to Ecology

November 11 Ecology – Ecological Interactions

November 13 Ecology – Ecosystems and Biomes World Biomes

November 18 Ecology – Biogeography, Global Ecology Climate Change and Conservation

November 20 Exam 4

November 25 Animals – Metabolism, Digestion, Nutrition

November 27 Animals – Circulation, Osmoregulation, Hormones, Homeostasis

November 29-30 Thanksgiving Break

December 2 Animals – Reproduction, Neuroscience, Biomechanics, Body Tissues

December 4 Final Presentations Due

December 11 Final Presentations

Books to consider reading for the Final project-

These are suggestions- feel free to find one in your own area of interest and run them by me. You do not need to buy the books- they are available through the library or through interlibrary loan!

The Red Queen: Sex and the evolution of human nature. Matt Ridley

New Guinea Tapeworms and Jewish Grandmothers: Tales of Parasites and People. Robert Desowitz

The Malaria Capers. Robert Desowitz

Parasite Rex: Inside the bizarre World of Nature's most dangerous creatures. Carl Zimmer

Naturalist. E.O. Wilson

Hens Teeth and Horse's Toes. S.J. Gould

Guns, Germs and Steel. Jared Diamond

Why is sex fun? Jared Diamond

Endless forms most Beautiful: the new science of Evo Devo. Sean B. Carroll

The Beak of the Finch. Jonathan Weiner

Dark Banquet. Blood and the curious lives of the blood feeding Creatures. Bill Schutt

A fish caught in time. Samantha Weinberg

The Great Influenza: the Story of the Deadliest Pandemic in History. John M. Barry

The ghost map: The story of London's most terrifying Epidemic—and how it changed science, cities, and the modern world. Steven Johnson.

The Immortal Life of Henrietta Lacks. Rebecca Skloot.

Lamarck's Revenge: How epigenetics is revolutionizing our understanding of evolution's Past and Present. Peter Ward.