

ORGANISMAL BIOLOGY

Course Syllabus for BIOL 1306 CRN 14329 Fall 2017

Instructor

Dr. Anthony Darrouzet-Nardi
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Scheduled Class Time and Room

Monday and Wednesday 9:00 - 10:20 a.m. - College of Business Admin 332

Office Hours

Monday 10:30 - 11:30 in my office (Biology B401). If you cannot make this time, email me and we can schedule an appointment. Please include the reason that you cannot make normal office hours.

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: Hillis DM (2014) *Principles of Life*. Sinauer Associates/MacMillan, Sunderland, MA. ISBN: 978-1-4641-0947-8

Topical Outline

- 1) Evolution
- 2) Phylogenetics
- 3) Diversity
- 4) Plants
- 5) Ecology
- 6) Animals

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 key anatomical and physiological features in plants and animals.
- 5) Match adaptations of organisms to Earth's major biomes and ecosystems.
- 6) Analyze biological systems on a variety of scales, from organism to global.
- 7) Master biological concepts using written and lecture materials.
- 8) Understand and correctly use scientific vocabulary related to organismal biology.

Grading

Exams

All students will take four exams (20 points each, the lowest of which will be dropped, for a total of 60 points) and a final (40 points). The final exam grade cannot be dropped. Because the lowest exam will be dropped, **there are no makeup exams**. Exams are multiple choice and scores will be curved up. I would expect though do not guarantee that the distributions on the exams will look something like: 10% A; 20% B; 35% C; 30% D; 5% F.

The exams can account for 100% of your grade if you wish. However, the weight of the exams will be reduced if you complete any of the following optional assignments. In doing this, you can down-weight your exam scores to as low as 40% but not lower. Essentially, you can pick one, two, or none of the following three options.

Optional participation - 30%

Reef clickers - 20% - I will monitor everyone's responses. If it helps your grade I will include it; if not, I won't. Most points will be for participating, with some for correct answers.

Random calls - 10% - You have to opt in if you want to do this one. You can opt in any time up until September 25. If done, this will be combined with the clicker grade. If you get randomly called and are absent or not paying attention, I may remove you from the pool.

Optional homework - 30%

These assignments will be administered through blackboard and will include tasks such as:

- practice test questions
- write an exam question
- possibly crowdsource the creation of content relevant to this class

They will be assigned approximately once every two weeks.

Optional project - 30%

This will likely involve working on a concept exploration project in which lecture slides are annotated but other creative ideas could work as well. Students wishing to embark upon a project should come to my office hours or schedule a meeting by email sometime before September 25. This will be more work than homework so I don't recommend planning to do both.

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. At the end of the semester, I will automatically calculate your most favorable grade including up to two of the optional assignment categories and your exams. For example, if you do all the homework and get full credit and your exam score is 75, you would receive a final grade of $30 + 75 \cdot 0.7 = 82.5$ which is a B.

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. Regular attendance will be necessary for success in this class.

Communication: Students can contact the instructor via email or office visits (by appointment).

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.

Schedule of Topics

#	DATE	TOPIC	CHAPTER
	August 28	<i>Introduction & Syllabus</i>	
	August 30	Evolution – Evolution & Natural Selection	15
	September 4	<i>LABOR DAY – no class</i>	
	September 6	Evolution – Evolution & Natural Selection	15
	September 11	Evolution – Genetic Variation and Evolution of Populations	15
	September 13	Evolution – Speciation	17
	September 18	EXAM 1	
	September 20	Evolution – Extinction and life over geologic time	16
	September 25	Phylogenetics – Phylogenetic trees	16
	September 27	Phylogenetics – Case study: Evolution of Lice	
	October 2	Diversity – Vertebrates and other Deuterostomes	23
	October 4	Diversity – Insects and other Protostomes	23
	October 9	EXAM 2	
	October 11	Diversity – Basal animals and Protists	23, 20
	October 16	Diversity – Fungi	22
	October 18	Diversity – Bacteria, Archaea and Origins of Life	19,18
	October 23	Diversity – Plants	21
	October 25	Plants – Anatomy	24
	October 30	EXAM 3	
	November 1	Plants – Biochemistry and Growth	26, 27
	November 6	Plants – Physiology	25
	November 8	Ecology – Populations and Species Interactions	42, 43
	November 13	Ecology – Communities, Biodiversity, and Succession	44
	November 15	Ecology – Ecosystems and Biomes	41
	November 20	EXAM 4	
	November 22	Ecology – Global Ecology	45
	November 27	Animals – Metabolism, Digestion, Nutrition	29, 30
	November 29	Animals – Circulation, Osmoregulation, Hormones	31, 32, 36, 35
	December 4	Animals – Reproduction, Neuroscience, Biomechanics	37, 38, 34, 33
	December 6	Animal Behavior	40
	December 13	CUMULATIVE FINAL EXAM (10-12:45)	