BIOLOGY 1313_001 GENERAL ZOOLOGY (3 CREDIT HOURS)
Spring 2021 Sul Ross State University

Instructor: Anne Marie Hilscher **Office Hours:** Online Tues/Thurs 10am-11am; by appt.
Office: WSB 314A **Lecture:** MWF 10:00 am -10:50 am, WSB 201
Email: ahilscher@sulross.edu (Type **Biology 1313_001** in subject line)

TEXTBOOKS:

Lecture: No textbook required. Any college-level Zoology textbook may be used as a reference.

Lab: If you are taking the lab, your lab requirements will be given by your lab TA.

COURSE DESCRIPTION

General Zoology provides a general survey of the animal kingdom, which considers the fundamentals of biological facts, laws, and principles as they apply to animals and functions of the organs and systems of representative animals.

COURSE OBJECTIVES

1) Students will identify, recall, and label basic cellular structures and processes.
2) Students will identify animal-like protists and classify organisms within the kingdom Animalia
3) Students will be able to summarize and explain the processes of evolution.
4) Students will be expected to demonstrate understanding of the genetic code and how it relates to protein synthesis.
5) Students will understand physiological systems, such as aerobic respiration and reproduction

ATTENDANCE

- Missing any test/exam without notifying me in advance will result in a zero for that exam grade—no exceptions. You must email or tell me in person before the test/exam.
- You will have FIVE days (including weekends) from the test date to make up a missed test; often, the makeup will be different from the original exam. If you fail to appear (on time) for your scheduled test or a makeup test, you will be given a zero.
- If you arrive for test/exam after other students have completed and turned in their exam, you will not be allowed to take the test/exam.
- Finally, if you miss a class, it is your responsibility to get notes and other important information from a classmate.

GRADING

Student Introduction	10
Comprehension Tests (3 @ 100 pts)	300
Assignments (2 @ 40 pts ea)	80
Quizzes (highest 6 @ 20 ea)	120
Final lecture exam	120 (comprehensive)
TOTAL	**630 points**

The use of books, notes, cell phones, etc. during exams is not permitted. The only item allowed at your desk during an exam is a writing implement.

WEEK	DATE	MWF 10:00am-10:50am
1 ***online***	M Jan 11	Zoology & Ecological Perspective
	W Jan 13	The Chemistry of Life
	F Jan 15	The Chemistry of Life
2 ***online***	**M Jan 18**	**No CLASS – MLK Day**
	W Jan 20	Cells, Tissues, Organs
	F Jan 22	Cell Division and Inheritance (Mitosis & Meiosis) ***Student Introductions due***
3	M Jan 25	DNA Structure, DNA Replication
	W Jan 27	Protein Synthesis
	F Jan 29	Animal Taxonomy; ***A#1 due***
4	M Feb 01	Animal Taxonomy, cont.
	W Feb 03	Cellular Respiration
	F Feb 05	Cellular Respiration, cont.
5	**M Feb 08**	**Comprehension Test #1**
	W Feb 10	Evolution: History & Evidence
	F Feb 12	Evolution: Gene Frequencies
6	M Feb 15	Evolution: Gene Frequencies, cont.
	W Feb 17	Reproduction & Development
	F Feb 19	Reproduction & Development, cont.
7	M Feb 22	Poriferans
	W Feb 24	Cnidarians
	F Feb 26	Platyhelminthes
8	M Mar 01	Mollusks
	W Mar 03	Mollusks, cont.
	F Mar 05	Annelids
9	*March 08-12—Spring Break*	
10	M Mar 15	Nematodes
	W Mar 17	Arthropods
	F Mar 19	Arthropods, cont.
11	M Mar 22	Catch-up and Review
	W Mar 24	**Comprehension Test #2**
	F Mar 26	Crustaceans
12	M Mar 29	Hexapods
	W Mar 31	Hexapods, cont.
	F Apr 02	*Good Friday – NO CLASS*
13	M Apr 05	Fishes
	W Apr 07	Fishes, cont.
	F Apr 09	Amphibians; ***A#2 due***
14	M Apr 12	Reptiles
	W Apr 14	Reptiles, cont.
	F Apr 16	Birds
15	M Apr 19	Birds, cont.
	W Apr 21	Mammals
	F Apr 23	Mammals, cont.
16	**M Apr 26**	**Comprehension Test #3**
	W Apr 28	LAST CLASS -- Wrap-up and Review
17	***Final Exam Friday, April 30th, 10:15 am-12:15 pm***	

STUDENT LEARNING OUTCOMES (SLOS)

The graduating biology student graduating with a BS in Biology should be able to:

1) The student will be able to demonstrate an understanding of basic biological concepts, including but not limited to evolution via natural selection, cell theory, and the role and function of DNA.
2) The student will be able to demonstrate utilization of various field techniques toward addressing scientific questions in the specific discipline. These field techniques can include, but are not limited to, plant collection and processing, various animal collection techniques, ecological surveying and sampling, and biodiversity indexing.
3) The student will be able to use biological instrumentation to solve biological problems using standard observational strategies.
4) The student will develop writing skills by summarizing and critiquing recent relevant biological literature.

CORE OBJECTIVES ADDRESSED:

1) Communication Skills – Students will effectively communicate the results of scientific investigations; using oral, written, and visual communication, either in group discussions or on written exams.
2) Critical Thinking Skills – Students will include creative thinking, innovation, inquiry, and analysis required to relate new information with previous information in a way that demonstrates the diversity and similarity due to evolutionary ancestry.
3) Empirical and Quantitative Skills – Students will use basic math skills to solve problems (e.g. related to genetic outcomes, cellular energy production, and probability) resulting in informed conclusions.
4) Teamwork Skills – Students will work effectively with others to support a shared goal during lab sessions on activities, such as dissections, problem solving, and other experimental procedures.

MARKETABLE SKILLS: A student getting a degree in the Biological sciences would be expected to acquire the following marketable skills by graduation.

1) Students will be able to organize, analyze, and interpret data.
2) Students will be proficient at using presentation software.
3) Students will acquire experience in managing time and meeting deadlines.
4) Students will gain the ability to speak effectively and write concisely about scientific topics.
5) Students will acquire experience and guidance in the development of professional email correspondence.

ADA Statement: Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. Students with qualifying disabilities who seek accommodations must initiate a request for a meeting for accessibility services. Students seeking accessibility services must contact Rebecca Greathouse Wren, M.Ed., LPC-S, Counseling & Accessibility Services, Telephone: 432-837-8203, or email: rebecca.wren@sulross.edu. For more information see: https://www.sulross.edu/page/1384/accessibility-services

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COVID-19. Sul Ross aims to do our part to prevent further spread of the novel coronavirus SARS-CoV-2. A mandatory campus-wide mask policy is in place, given the high level of contagion of this coronavirus and the implications of its disease COVID-19. Following guidelines from the Centers for Disease Control, face masks can be cloth and must cover your nose and mouth. Masks must be kept on during classes and within all public places in campus buildings at all times as part of this community-wide effort to prevent more spreading of COVID-19. Failure to do so will be treated as a class disruption, per the Student Handbook.

Educator Standards. For students seeking certification, this course will cover aspects of the following SBEC educator standards and competencies for Science EC-6 Standard IV:

Competency 002 (History and Nature of Science): *The teacher understands the history and nature of science, the process and role of scientific inquiry and the role of inquiry in science instruction.* A,J,M,N,P

Competency 003 (Impact of Science): *The teacher understands how science impacts the daily lives of students and interacts with and influences personal and societal decisions.* S,T,U

Competency 004 (Concepts and Processes): *The teacher knows and understands the unifying concepts and processes that are common to all sciences.* C,F,H

Competency 005 (Students as Learners and Science Instruction): *The teacher has theoretical and practical knowledge about teaching science and about how students learn science.* C,F,G,H

Competency 006 (Science Assessment): *The teacher knows the varied and appropriate assessments and assessment practices for monitoring science learning in laboratory, field and classroom settings.* B,C,D

Competency 011 (Structure and Function of Living Things): *The teacher understands the structure and function of living things.* H,I,J,L

Competency 012 (Reproduction and the Mechanisms of Heredity): *The teacher understands reproduction and the mechanisms of heredity.* A,B,C,E

Competency 013 (Adaptations and Evolution): *The teacher understands adaptations of organisms and the theory of evolution.* A,F,G

Competency 014 (Organisms and the Environment): *The teacher understands the relationships between organisms and the environment.* B,C,D,E,F