

BIOL 1113 GENERAL ZOOLOGY LAB
Sul Ross State University Spring 2023

Lab Room: WSB 111
Lab Section/Time: Monday 1:00 – 2:40 **Instructor:** Anne Marie Hilscher

Office Hours: M 8:30-11:00; T 8:30-9:30; W 8:30-11:00 & 1-3; R 8:30-9:30 & 2-3; Fridays by appt.
If you have a teaching assistant (TA), those office hours will be provided the first week of labs.

** Your name and “**Zoology Lab**” should be included in the body of any email correspondence. **

Course description: This class provides a general survey of the animal kingdom which considers the fundamentals of biological facts, laws, and principles as they apply to animals and the structures and functions of the organs and systems of representative animals. Specific topics are listed below.

Optional Manual:** Smith, David G. *Exercises for the Zoology Laboratory*. (any edition) Morton Publishing Co., Englewood, Colorado. Used copies can be purchased online at reasonable prices. ***Not required this semester

Course objectives:

1. Provide a broad overview and appreciation of animal diversity.
2. Develop an understanding of the role of evolutionary theory and its relation to animal diversity.
3. Explore the physical, morphological, and physiological characteristics of animals.
4. Enhance critical thinking skills.

Grading:

5 quizzes @ 10 pts ea	50 (<i>highest five quiz scores</i>)
Animal Taxonomy assignment	50
<u>3 lab practicals @ 50 pts each</u>	<u>150</u>
Total Credit	250

Attendance: Students are required to attend the lab section they have registered for and will be marked absent for attending any other section or not sitting in their assigned seat. Attendance can only be made up with a university-approved excuse (i.e. doctor’s note, note from a coach, note from the university). If you are missing class due to a COVID exposure, we must receive a notification from the university for you to receive your points. If you miss class, it is your responsibility to remain up to date with the course material posted to Blackboard.

- **Quizzes:** Weekly quizzes over the previous week's material. The highest five quiz scores will be taken.
- **Lab practicals:** Each lab practical consists short answer questions drawn from material covered during lab lectures and dissections. Practical are not cumulative.
- **Animal Taxonomy assignment:** Students will prepare a profile of two animals. Details of this natural history assignment will be given during lab.

LABORATORY SCHEDULE

Date	Topic
Jan 23	Lab safety and techniques, metric system, microscope use, wet mounts
Jan 30	Animal Taxonomy; Taxonomy assignment details
Feb 06	Specimen sketches; Animal-like Protists
Feb 13	Lab Practical #1
Feb 20	Porifera and Cnidaria
Feb 27	Platyhelminthes and Mollusca
Mar 06	Annelida and Nematoda
Mar 13	SPRING BREAK
Mar 20	Arthropoda and Echinodermata
Mar 27	Lab Practical #2
Apr 03	Intro to Chordata; Fishes
Apr 10	Amphibia and Reptilia
Apr 17	Aves and Mammalia
Apr 24	Lab Practical #3 (Last lab meeting)

COVID-19 Response: Hand sanitizer stations are placed at all building entrances and students are encouraged to use them in addition to handwashing.

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: Any student who because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make necessary arrangements. If an accommodation is needed, students must present their accommodation letter, obtained from Accessibility Services, as soon as possible. Please note that instructors are not permitted to provide classroom accommodations to a student until the appropriate verification has been received. Accessibility Services is in Ferguson Hall room 112. You can make an appointment by calling Mary Schwartze Grisham at 432 837-8203.

SRSU Library Services. The Sul Ross Library offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu. Off-campus access requires your LoboID and password. Check out materials using your photo ID. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

Academic Integrity. Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden.

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