

BIOL 1307 BIOLOGY FOR MAJORS II (3 credits)
SUL ROSS STATE UNIVERSITY
SPRING 2024

Instructor: Ms. Anne Marie Hilscher
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Course Meeting Times: Mon/Wed 11:00 a.m.-12:15 p.m. in WSB 101.

Office Hours: MWF 10-11; M 2-3; TR 11-12, and by appt. Please email me at any time. I will respond within 24 hours (up to 48 hours on weekends).

Required OpenStax textbook: <https://openstax.org/details/books/biology-2e>

Course Description. This course covers the foundational concepts of natural selection, evolution, and speciation, prokaryotic and eukaryotic diversity, and ecological and environmental principles.

Course Objectives.

- Describe the different processes by which natural selection can shape the structure of populations.
- Describe the current understanding of diversity and evolutionary relationships among organisms.
- Describe where representative prokaryotic organisms are found in the environment, their important relationships with other organisms, and important adaptations.
- Identify distinguishing features of eukaryotes, as well as key features of major divisions.
- Examine the process of reproduction and trace the life cycles of representative animals.
- Relate the basic principles of ecology to the diversity and distribution of organisms on earth.

Grading.

3 Lecture Exams	300	71%
<u>3 Lecture Assignments</u>	<u>120</u>	<u>29%</u>
TOTAL	420	100%

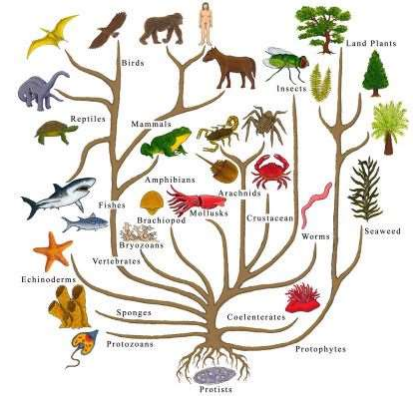
ATTENDANCE AND MAKEUP EXAMS. If you arrive for an exam after other students have completed and turned in their exams, you will not be allowed to take the exam.

- Missing any exam without notifying me in advance will result in a zero for that exam grade—no exceptions.
- You'll have five days (including weekends) from the test date to make up the missed exam; often the makeup exam will be different from the original exam.
- If you fail to appear—or appear late—for your scheduled makeup exam, you will receive a zero.
- Finally, if you miss a class, it is your responsibility to get notes and other important information from a classmate.

LATE POLICY: 10% deduction for each day late (including weekends)

STUDENT LEARNING OUTCOMES (SLOS) The 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 the 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 writingskills by summarizing and critiquing recent relevant biological literature.



TENTATIVE LECTURE SCHEDULE

WEEK	TOPIC	CHAPTER
<i>Week 1</i> Jan 15	MLK, Jr. Day (No Class)	
Jan 17	Introduction to Course; Intro to Evolution	18
<i>Week 2</i> Jan 22	Origin of Species	18
Jan 24	Evolution of Populations	19
<i>Week 3</i> Jan 29	History of Life on Earth	20
Jan 31	History of Life on Earth, cont.	
<i>Week 4</i> Feb 5	Prokaryotes: Bacteria & Archaea	22
Feb 7	Protists; A#1 due	23
<i>Week 5</i> Feb 12	<i>Review</i>	
Feb 14	EXAM 1	
<i>Week 6</i> Feb 19	Fungi	24
Feb 21	Seedless Plants	25
<i>Week 7</i> Feb 26	Seed Plants	26
Feb 28	Animal Diversity	27
<i>Week 8</i> Mar 4	Invertebrates;	28
Mar 6	Invertebrates, cont.; A#2 due	
<i>Week 9</i> Mar 11-15	SPRING BREAK	
<i>Week 10</i> Mar 18	Vertebrates	29
Mar 20	Vertebrates, cont.	
<i>Week 11</i> Mar 25	<i>Review</i>	
Mar 27	EXAM 2	
<i>Week 12</i> Apr 1	Animal Reproduction	43
Apr 3	Introduction to Ecology and Biosphere	44
<i>Week 13</i> Apr 8	Introduction to Ecology and Biosphere, cont.	
Apr 10	Population and Community Ecology; A#3 due	45
<i>Week 14</i> Apr 15	Population and Community Ecology, cont.	
Apr 17	Ecosystems	46
<i>Week 15</i> Apr 22	Ecosystems, cont.	
Apr 24	Conservation Biology and Biodiversity	55
<i>Week 16</i> Apr 29	Conservation Biology and Biodiversity, cont.	
May 01	<i>Review</i>	
<i>Week 17</i>	EXAM 3 (Final Exam) See SRSU Final Exam schedule for date & time.	

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.

SRSU Attendance Policy. Roll will be taken during each class meeting. The SRSU catalog states “The instructor may, at their discretion, drop a student from a course when the student has a total of nine absences in lecture and three absences in lab. An absence is defined as non-attendance in fifty minutes of class. Exams must be taken on the scheduled exam date that will be announced at least a week prior unless other arrangements have been made with the instructor. Exams must be made up within a week from the scheduled date. **RULE TO LIVE BY: DON’T MISS ANY CLASSES!** If you absolutely must miss, make sure you let me know before.

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.

SRSU Disability Services. Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student’s responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartz Grisham, M.Ed., LPC, SRSU’s Accessibility Services Coordinator at 432-837-8203 (please leave a message and we’ll get back to you as soon as we can during working hours), or email mschwartz@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

Technical Support. SRSU 24/7 Blackboard Technical Support: Phone: 888.837.6055. Email: blackboardsupport@sulross.edu

SRSU Library Services. The Bryan Wildenthal Memorial Library in Alpine 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 by phone (432-837-8123).