

Biology 4101:001, V01 – Senior Review – Fall 2026
Lecture T 2:00-2:50 WSB 107 or personal computer
Syllabus

Instructor: Dr. Christopher M. Ritzl

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Office hours: M 2-3, TR 9:30-10:45, W 2:00-5:00 PM., or appt.

Class Website: <https://www.sulross.edu/bb/>

Text: Campbell Biology. 12th Edition or earlier. Urry, Cain, Wasserman, Minorsky, and Reece or other Intro Biology textbook.

Course Description: This course is designed as a capstone course for Biology majors, to help review for the Biology Assessment Exam. The exam will be based on Campbell's Biology 12th ed. In preparation for this exam and this course, you will be required to give 4-15 to 30 minute PowerPoint presentations and write at least 4 brief outlines from the topics/chapters below, focusing on the major points.

Student Learning Outcomes for Undergraduates in the Program

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.

Student Learning Objectives for this Course:

- 1) Students will understand the basic principles underlying the discipline of Biology.
- 2) Students will illustrate knowledge of biology using oral and media presentations.
- 3) Students will demonstrate an ability to explain major biological concepts with written outlines and communication

Marketable Skills:

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.

Tests: There will be one exam over the course of the term, the Biology Assessment exam. This multiple choice exam is required to earn a C or better in order to complete this course and be eligible for graduation. Additionally, students working toward teacher certification must score an 80% or higher to be coded for authorization to take the life science content/science content exam.

Grading: Your grade will be assigned based on the percentage of points you get out of total possible. Each oral presentation is worth 50 points, the written summaries are worth 25 points each, and the final exam is worth 200 points, for a total combined points of 500 points.

Attendance: Students missing 20% of lectures (3 lectures) may be dropped from the class per the SRSU catalog. Any student dropped for excessive absences will receive an F for the course grade. Please notify your instructor BEFORE missing class for authorized activities, death in the family, or illness. Exams missed for any reason must be made up within one week of the originally scheduled date. **REGARDLESS OF WHY AN ABSENCE OCCURS, YOU MAY BE GIVEN AN F FOR THE COURSE GRADE IF YOU ACCUMULATE THREE ABSENCES.**

Lecture courtesy: The general rules of classroom etiquette are below.

- 1) Please do not talk to others in class while the instructor is lecturing. If you have a question, ASK THE INSTRUCTOR! That's what I'm here for.
- 2) No eating, chewing, dipping, etc.
- 3) Please turn cell phones and pagers to silent while in class. They are disruptive to the entire class, and detract from learning.

SUBJECTS TO BE COVERED		
DATE	LECTURE TOPIC	CHAPTER
Aug 25	Introduction and Biological Theory	1
Sept 1	Biological Molecules and Chemistry	2, 3, 4, 5
Sept 8	Cell structure, membranes, and cell communication	6, 7, 11
Sept 15	Cell Metabolism, respiration, and photosynthesis	8, 9, 10
Sept 22	Cell Cycle, meiosis, genetics, chromosomes, and inheritance	12 - 16

Sept 29	Gene expression and regulation, viruses, and biotechnology	17, 18, 19, 20
Oct 6	Evolution, Darwin, evolution of populations, Origin of Species, and history of life	21 - 25
Oct 13	Phylogeny, bacteria, archaea, protists	26, 27, 28
Oct 20	Plants Diversity and Fungi	29, 30, 31
Oct 27	Plant Form and Function I	35, 36
Nov 3	Plant Form and Function II	37, 38, 39
Nov 10	Animal Diversity	32, 33, 34
Nov 17	Animal Form and Function I	40 - 45
Nov 24	Animal Form and Function II	46 - 51
Dec 1	Ecology (population, community, and ecosystems) and Conservation Biology and global change	52 - 56
Dec 3	Dead Day	
Dec 7 12:30 pm	Final exam on Monday Dec 7th	

Note – This outline is subject to change for reasons of course interest, time constraint, or instructor whim. The exams will be administered on the dates given, unless material relevant for a given exam has not been covered. Under such cases, an exam may be moved a class period or two to aid in the clarity and understanding of the material.

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. Students seeking accessibility/accommodations services must contact 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 counseling@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.

SRSU Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login. Students enrolled in distance education courses at Sul Ross are expected to

adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook.

Libraries: 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 logging in with your LobolD and password. 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.

Classroom Climate of Respect: Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement: I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.