

**Biology 4101:001/V01 (ALP/MC/DR/EP/UV)**  
**Senior Review – Spring 2025**  
**Lecture T 2:00-2:50 WSB 107 (or via virtual connection)**  
**Syllabus**

**Instructor:** Dr. Christopher M. Ritzi

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Office hours: M 3:30-4:30, T 3-5, W 2-5, or by appt..

**Class Website:** <http://sulross.blackboard.com> and <http://faculty.sulross.edu/critzi/>

**Text:** Campbell Biology. 12<sup>th</sup> Edition or earlier. Urry, Cain, Wasserman, Minorsky, and Reece.

**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 12<sup>th</sup> ed. In preparation for this exam and this course, you will be required to give 4-15 minute Powerpoint presentations and write at least 2 brief outlines from the topics/chapters below, focusing on the major points.

**Student Learning Outcomes for Undergraduates in the Program**

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 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 400 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 SIX 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.

<b>SUBJECTS TO BE COVERED</b>		
<b>DATE</b>	<b>LECTURE TOPIC</b>	<b>CHAPTER</b>
Jan 21	Introduction and Biological Theory	1
Jan 28	Biological Molecules and Chemistry	2, 3, 4, 5
Feb 4	Cell structure, membranes, and cell communication	6, 7, 11
Feb 11	Cell metabolism, respiration, and photosynthesis	8, 9, 10

Feb 18	Cell Cycle, meiosis, genetics, chromosomes, and inheritance	12 - 16
Feb 25	Gene expression and regulation, viruses, and biotechnology	17, 18, 19, 20
Mar 4	Evolution, Darwin, evolution of populations, Origin of Species, and history of life	21 - 25
Mar 11	Phylogeny, bacteria, archaea, protists	26, 27, 28
Mar 18	Spring Break	
Mar 25	Plants Diversity and Fungi	29, 30, 31
Apr 1	Plant Form and Function I	35, 36
Apr 8	Plant Form and Function II	37, 38, 39
Apr 15	Animal Diversity	32, 33, 34
Apr 22	Animal Form and Function I	40 - 45
Apr 29	Animal Form and Function II	46 - 51
	Ecology (population, community, and ecosystems) and Conservation Biology and global change	52 - 56
May 1	Review for Final	
May 5 12:30 pm	Final exam on <b>Monday</b>	

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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:** SRSU Accessibility Services. Sul Ross State University (SRSU) is committed to equal access in compliance with the 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 Mrs. Mary Schwartze Grisham, LPC, SRSU's Accessibility Services Director at 432-837-8203 or email [counseling@sulross.edu](mailto:counseling@sulross.edu). Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, 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](http://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](mailto: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. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as 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. Students should also avoid using open AI sources *unless permission is expressly given* for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

**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.