

BIOL 2321 MICROBIOLOGY

Sul Ross State University Spring 2025

Instructor: Mrs Jena Carey

Office: WSB 220, Phone: 432-837-8820

E-mail: jena.carey@sulross.edu (**Type BIOL 2321 in the subject line)

Office Hours: M-R 08:30-9/1:30-3; Friday by appointment only

Lecture: TR 12:30-1:45 WSB 201

Course description: This course will focus on microorganisms and how they impact our everyday lives. As an introductory course in Microbiology, the focus will be on the ubiquity, diversity and evolution of microorganisms, microbial ecology, and medical microbiology. Genetics, genomics and molecular biology will receive less attention as these topics are covered in other courses.

Textbook: I don't require a textbook, but you can use any microbiology text to clarify information presented in class. **FREE RESOURCE:** [Microbiology | OpenStax](#)

Grading: There will be three lecture exams, each of equal contribution to the student grade. Exams will cover the lecture material immediately preceding the exams *i.e.*, no comprehensive final exam

Task	Points
Unit Exams (3@100 pts each)	300
Attendance	280
Concept Maps (8 @ 20 pts each)	160
TBL/Exit Tickets	120
Final Exam	100
<u>Intro</u>	<u>40</u>
TOTAL	1000

Grades: A 90 – 100% B 80 – 89% C 70 – 79% D 60 – 69% F 0 – 59%

Attendance: Lectures will not be posted on Blackboard so students must attend lectures to receive the material. Absences are excused only if students have a documented, university approved excuse (illness, death in the family, etc.). As per SRSU policy, any students missing 20% of lectures (6 lectures) over the course of the semester shall be dropped from the class with an F.

Students cannot miss exams unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed **at least 24 hours in advance** of the exam.

Concept Maps: Unit concept maps will be required for each subunit. A template will be posted on Blackboard to use. You will need to save a copy, edit and fill in YOUR information, and turn it in onto Blackboard in the appropriate TurnItIn link.

TENTATIVE COURSE SCHEDULE

WEEK	DATE	TOPIC
1	R Jan 16	An Introduction to Microorganisms
2	T Jan 21	Microbial Cell Structure & Function
	R Jan 23	Bacterial Stains
3	T Jan 28	Microbial Metabolism Concept Map #1 Due
	R Jan 30	Microbial Genetics
4	T Feb 04	Microbial Growth & Control
	R Feb 06	Microbial Growth & Control Concept Map #2 Due
5	T Feb 11	EXAM I
	R Feb 13	Viruses
6	T Feb 18	Viruses Concept Map #3 Due
	R Feb 20	Diversity of Bacteria
7	T Feb 25	Diversity of Bacteria Concept Map #4 Due
	R Feb 27	Diversity of Archaea
8	T Mar 04	Diversity of Archaea Concept Map #5 Due
	R Mar 06	Review
9	T Mar 11	EXAM 2
	R Mar 13	Diversity of Eukaryotic Microorganisms
10	T Mar 18	No Classes
	R Mar 20	Spring Break
11	T Mar 25	Diversity of Eukaryotic Microorganisms
	R Mar 27	Diversity of Eukaryotic Microorganisms Concept Map #6 Due
12	T Apr 02	Microbial Ecology
	R Apr 04	Microbial Symbioses
13	T Apr 08	Bioremediation Concept Map #7 Due
	R Apr 10	EXAM 3
14	T Apr 15	Microbial Interactions with Humans
	R Apr 17	Diagnostic Microbiology & Vaccines
15	T Apr 22	Diagnostic Microbiology & Vaccines Concept Map #8 Due
	R Apr 24	Bacterial and Viral Diseases
16	T Apr 29	Vaccines
	R May 01	NO CLASS-STUDY DAY

Note – This outline is subject to change. The exams will be administered on the dates given unless material relevant for a given exam has not been covered.

STUDYING: As a general rule, students should spend 2-3 hours studying for every 1 hour of lecture material.

So, for this class, you need to allocate **5-7.5 hours per week** to study the lecture material.

I HIGHLY RECOMMEND READING BEFORE LECTURE.

You have been given the tentative schedule- please review it and read material beforehand.

I recommend reading your notes in conjunction with reading the relevant textbook chapters. Studying is best done before & after the lecture, not all at once the night before the exam.

Look up anything that you do not understand or visit with your instructor during office hours.

Student Learning Objectives for this Course:

- Students will outline the differences between prokaryotes and eukaryotes
- Students will demonstrate an understanding of microbial growth, nutrition and metabolism
- Students will demonstrate an understanding of microbial ecology and nutrient cycling
- Students will outline the basic features of bacteria, archaea, fungi, algae, protists and viruses
- Students will demonstrate an understanding of diseases caused by bacteria, fungi and viruses

Marketable Skills (MS): The biology student graduating with a BS in Biology should have the:

1. Ability to organize, analyze, and interpret data.
2. Proficiency in using presentation software.
3. Experience in managing time and meeting deadlines.
4. Ability to speak effectively and write concisely about scientific topics.
5. Experience in the development of professional email correspondence.

Student Learning Outcomes (SLO): The biology student graduating with a BS in Biology should be able to:
SLO1 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.

SLO2 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.

SLO3 use biological instrumentation to solve biological problems using standard observational strategies.

SLO4 develop writing skills by summarizing and critiquing recent relevant biological literature.

ADA Statement

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 Schwartz Grisham, LPC, SRSU's Accessibility Services Director or Ronnie Harris, LPC, Counselor, at 432-837-8203 or email mschwartz@sulross.edu or ronnie.harris@sulross.edu. RGC students can also contact Alejandra Valdez, at 830-758-5006 or email alejandra.valdez@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.

Required Student Responsibilities Statement

All full-time and part-time students are responsible for familiarizing themselves with the **Student Handbook** and the **Undergraduate & Graduate Catalog** and for abiding by the **University rules and regulations**. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state and local laws and is expected to familiarize themselves with the requirements of such laws.

Counseling

Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/365 support by visiting [Timelycare/SRSU](https://www.timelycare.com/SRSU). The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and RGC students.

Libraries

The Bryan Wildenthal Memorial Library and Archives of the Big Bend in Alpine offer 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 by phone (432-837-8123).

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu.

Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL), ScanIt, and Direct Mail to get materials delivered to you at home or via email.

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 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 Family. 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