

BIOL 2121 Microbiology Lab
Sul Ross State University Spring 2023
Lab time and location: Wednesday 1:00-2:40 in WSB 203

Lab instructor: Ben Thomas | **Office:** WSB 214

E-mail: bdt19tl@sulross.edu

Office Hours: 1:00-4:00 Fridays AND by appointment

No textbook required

Course Description: This laboratory will focus on hands on learning of microscopy, aseptic technique, isolating and culturing bacteria, and identifying microorganisms.

Lab attendance: Lab attendance is mandatory. There will be no makeup labs. If you have a university approved excuse to be absent, you must make arrangements with the TA **before** missing lab. More than three (3) missed labs will result in a failing grade and possible withdrawal from the course. **Anyone feeling ill should not come to lab.** In the event that you miss class due to illness or other university-approved absences, contact your instructor via email to request missed material. (Approved absences include SRSU athletic events, death in the family, illness, etc. See https://www.sulross.edu/wp-content/uploads/2021/07/fh-4_02-6_29_17.pdf for details.)

Grading Scale:

Lab Exercises.....	80 pts (lowest score dropped if more than eight)
Human Skin Biome Project.....	100 pts
<u>Exams (3 @ 50 pts ea).....</u>	<u>150 pts</u>
Total:	330 pts

Lab Exercises are due the week after the lab is completed. **No late work will be accepted.**

Human Skin Biome Project. Details will be provided in lab.

Exams. Students cannot miss exams unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed **more than 24 hours in advance** of the exam. Any missed exams must be taken within one week of the original exam.

Academic dishonesty and late or missed work: All assessments should be your ownwork, unless it is a pair/group assignment. Any evidence that the work is copied from a peer or the internet or any other source will result in a zero for the assessment and you will be reported to the university for Academic Dishonesty. I do not accept late work.

Students cannot miss exams unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed in writing **>24 hours in advance.** The make-up exam must be taken within **five** days of the original exam.

TENTATIVE SCHEDULE (SUBJECT TO CHANGE)

Date	Lab	Lab Topic
Jan 18		NO LAB
Jan 25	1	Introduction to the microscope; Lab Safety
Feb 01	2	Microbiology of pond water; Morphology of chloroplasts & cyanobacteria
Feb 08	3	Ubiquity of bacteria; Aseptic technique
Feb 15	4	Pure culture techniques, smear preparation, simple staining (methylene blue)
Feb 22		Lab Exam #1
Mar 01	5	Media Preparation
Mar 08	6	Negative staining; Gram staining
Mar 15		No Lab - Spring break
Mar 22	7	Spore staining; Motility determination; Human Skin Biome Project Part 1
Mar 29		Lab Exam #2
Apr 05	8	Evaluation of Alcohol, Efficacy of Disinfectants; Human Skin Biome Project Part 2
Apr 12	9	Kingdom Fungi, Human Skin Biome Project Part 3
Apr 19	10	Submit Human Skin Biome Project; Lab Cleanup
Apr 26		Final Lab Exam (selectively cumulative)

LAB BEHAVIOR:

- * *do* wear gloves when asked to do so (if you can wear a size small glove, please do. We are low on other sizes.)
- * *do* disinfect things that you touch
- * *do* wear closed-toes shoes and tie your hair back
- * *do* be on time
- * *do* turn off your phone and put it away; phone use is distracting to your peers and the instructor
- * *do* feel free to take notes on a laptop but don't use your laptop for anything else, it's distracting to others
- * *do* ask relevant questions and discuss topics in a civil and respectful manner
- * *do not* sleep, eat, or drink in lab

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 Schwartz 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.