GENERAL BOTANY – LAB

BIOL 1111

1 Credit Hour

Instructor: Dr. Clifton F. Albrecht

Office: WSB 218

Email: cfa25gj@sulross.edu

Office Hours: By appointment.

Time: Wednesday 1:30pm – 3:10pm

Classroom: WSB 204

Course Description (Lab): Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism, the role of plants in the environment, evolution and phylogeny of major plant groups.

Course Structure: The course is organized into three sections. These three sections cover: **(1)** Plant Form ("breaking down the green wall"), **(2)** Plant Tissues & Physiology, and **(3)** Plant Ecology & Conservation.

Grading:

Each lab is 10 points. Pre-labs, where assignmened, are included in this value.

Attendance: Attendance at all labs is required. The majority of lab material cannot be done outside of course hours. One lab absence will be permitted for exceptional circumstances. Such absence must be communicated to me no less than three weekdays in advance, and documentation will be required for approval. Credit for this missed lab will be earned by a make-up assignment covering the lab material.

Late work: Late submissions are not permitted. Pre-labs, when assigned, are due at the beginning of the lab period. Lab handouts, when assigned, are due at the end of the lab period.

Lab handouts: Students are required to print personal copies of lab handouts **prior to lab**. Your instructor **will not** provide copies of the handouts. This is, principally, because many labs are associated with a pre-laboratory assignment which must be completed prior to the lab meeting and submitted in physical format to the instructor.

Lab Schedule

WEEK	LAB NUMBER	LAB TOPIC
Week 1 **Aug 27**	No Lab	
Wk. 2 **Sep 3**	1	Breaking the Green Wall: Interspecies Comparisons
Wk. 3 **Sep 10**	2	Floral Morphology: Model Sketching
Wk. 4 **Sep 17**	3	Dichotomous Keys: How to Identify Unknowns
Wk. 5 **Sep 24**	4	Field Botany: Plant Pressing and Voucher Labeling
Wk. 6 **Oct 1**	5	Phylogenetics: "Tree Thinking"
Wk. 7 **Oct 8**	6	Microscopy: Cell & Tissue Types
Wk. 8 **Oct 15**	7	Photosynthesis
Wk. 9 **Oct 22**	8	Herbarium Visit
Wk. 10 **Oct 29**	9	Ecological Restoration: West Texas Native Seeds (Site Visit)
Wk. 11 **Nov 5**	10	Plant Ecology: Species-Area Curves
Wk. 12 **Nov 12**	11	Ecological Restoration: American Bird Conservancy Site Visit (Site Visit)
Wk. 13 **Nov 19**	12	Plant Ecology: Microhabitats

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.

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) CriticalThinking 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.

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, orquiz when collaboration is forbidden.

SRSU Disability Services. 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 Schwartze 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 mschwartze@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, SUI 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).