

Biology 1311 General Botany (3 credits) Fall 2019 Sul Ross State University

Instructor: Anne Marie Hilscher **Phone:** 837-8725
Office: WSB 314A **Office Hours:** Tues/Thurs 9:30am-10:45am
Lecture: Tues/Thurs 11:00am-12:15pm WSB 201
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TEXTBOOK.

Lecture: Raven, Evert, & Eichhorn, *Biology of Plants*, 8th Edition, or any other ed. (**Optional**)
Lab: *Discover the Chihuahuan Desert: General Botany. A Laboratory Manual for Biology 1111*, 2nd Edition by J. Zech and A. Michael Powell. (****Required if in lab****)

COURSE SUMMARY. General Botany provides a general survey of the plant kingdom while considering the fundamentals of biological facts as they apply to plants. Structure and functions of plant organs, as well as basic plant taxonomy, will be covered.

LEARNING OBJECTIVES FOR THIS COURSE:

- Understand the role of key figures and events in the history of biological science.
- Understand principles of classification, including distinguishing major plant groups (monocots & eudicots)
- Recognize major cell structures and their function.
- Understand the processes of plant reproduction and principles of genetics.
- Explain basic scientific concepts associated with physiological plant processes (photosynthesis & respiration).
- Understand the role of DNA and RNA in the process of protein synthesis.
- Understand the structure and function of plant parts (leaves, stem, roots, and flowers).
- Understand the effects humans have on the environment.

EXAMS & ASSIGNMENTS: A total of three exams and five quizzes will be administered. ****If you arrive for an exam after other students have completed and turned in their exams, you will not be allowed to take the exam.**** Quizzes cannot be made up. More than five quizzes may be administered, but the lowest score will be dropped. If you are taking the lab, you will receive a separate lab syllabus from your lab instructor.

GRADING.	Three Lecture Exams (3 @ 100 pts each)	300 (57%)
	Quizzes (5 @ 20 points each)	100 (19%)
	<u>Final Exam (Comprehensive)</u>	<u>125 (24%)</u>
	TOTAL COURSE POINTS	525 (100%)

Attendance. Missing any exam will notifying me in advance will result in a zero for that exam grade—no exceptions. You must call my office, leave a message, or tell me in person before the exam, You will have five days (including weekends) from the test date to make up the missed exam; often the makeup exam will be different from the original exam. If you fail to appear (or appear late) for your scheduled makeup exam, you will receive a zero. Finally, if you miss a class, it is your responsibility to get notes and other important information from a classmate.

TENTATIVE LECTURE OUTLINE

<i>Date</i>	<i>Topic</i>	<i>Chapter</i>
Aug 27	Botany: An Introduction	1
Aug 29	Molecular Composition of Plants Cells	2
Sep 03	The Plant Cell and the Cell Cycle	3
Sep 05	The Plant Cell and the Cell Cycle, cont.	3
Sep 10	The Movement of Substances In and Out of Cells	4
Sep 12	Plants and People	21
Sep 17	DNA Structure and DNA Replication	9
Sep 19	Protein Synthesis	9
Sep 24	EXAM #1	
Sep 26	Sexual Reproduction and Heredity	8
Oct 01	Systematics and Taxonomy	12
Oct 03	Cells and Tissues of the Plant Body	23
Oct 08	The Root: Structure and Development	24
Oct 10	The Shoot: Stems and Leaves	25
Oct 15	Secondary Growth in Stems	26
Oct 17	Respiration	6
Oct 22	EXAM #2	
Oct 24	Photosynthesis	7
Oct 29	Photosynthesis, cont.	7
Oct 31	The Process of Evolution	11
Nov 05	Nonvascular Plants	16
Nov 07	Seedless Vascular Plants	17
Nov 12	Gymnosperms	18
Nov 14	Angiosperms	19, 20
Nov 19	Angiosperms, cont.	19, 20
Nov 21	EXAM #3	
Nov 26	Current Topic in Botany (TBA)	<i>not in text</i>
Nov 27-29	No classes—Thanksgiving Holidays	
Dec 03	Wrap-up and Review	
Dec 05	No classes—Study Day	
Dec 09	FINAL EXAM	

STUDENT LEARNING OUTCOMES (SLOs)

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.

CORE OBJECTIVES ADDRESSED:

- Team Work
- Communication
- Critical Thinking Skills
- Empirical and Quantitative Skills
- Social Responsibility
- Personal Responsibility

ADA (Americans with Disabilities Act) Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartze-Grisham, M. Ed., LPC., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas. Telephone: 432-837-8691. E-mail: mschwartze@sulross.edu