

SYLLABUS
SUL ROSS STATE UNIVERSITY
GENERAL BOTANY, BIOL 1311, Sec. 002, Fall 2016

Instructor: Dr. Martin Terry
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(Please include "Botany" in the subject field of your email, so that I'll know which course you're writing to me about.)

Office Hours: M 3:00–5:00 p.m., T 2:00–5:00 p.m., or by appointment.
Drop in at random if you feel lucky. If I'm in the office, you're welcome.

Time and Venue of Lecture: TR 11:00–12:15, WSB 201

Textbook: Evert and Eichhorn, *Raven Biology of Plants*, 8th Edition.

Program Learning Objectives

- 1) Demonstrate an understanding of evolution by evolution by natural selection.
- 2) Demonstrate an integration of environmental awareness into everyday modern life.
- 3) Understand how to incorporate molecular biology into the study of the whole organism.
- 4) Demonstrate utilization of various field techniques to address scientific questions in botany.
- 5) Conduct basic laboratory experiments utilizing standard observational strategies.

OBJECTIVES OF THIS COURSE:

- Understand the role of key figures and events in the history of biological science.
- Understand evolution and the processes that influence it
- Understand terminology relevant to biological laboratory and field work.
- Explore the applications of scientific skills and knowledge to daily living.
- Understand the safe and proper use of laboratory and field equipment and supplies.
- Understand the principles of experimental laboratory research and proper reporting techniques.
- Understand principles of classification and naming of living organisms.
- Recognize major cell structures and their functions.
- Analyze cell division and reproduction.
- Understand aerobic respiration and photosynthesis—their similarities and differences.
- Be able to identify the processes of molecular biology—replication, transcription and translation—and the roles of DNA and RNA in the process of protein synthesis.
- Understand the structure and functions of genes and chromosomes.
- Compare the fundamental concepts of Mendelian genetics.
- Analyze characteristics of fungi, algae, mosses, and ferns.
- Analyze characteristics of gymnosperms and angiosperms.
- Analyze characteristics of roots, stems, and leaves.
- Understand mechanisms of plant reproduction.
- Understand the effects humans have on the environment and vice versa.

GRADING: Grades as a percentage of 550 total points will be reported as letter grades according to the following percentage intervals: A = 89.5–100%. B = 79.5–89.5%. C = 69.5–79.5%. D = 59.5–69.5%. F = 0–59.5%. For borderline grades, the instructor may apply criteria which are qualitative rather than quantitative — e.g., class participation or other evidence of effort in the course or lack thereof — to determine whether to round the letter grade up or down.

POINT DISTRIBUTION:	Three Exams @ 100 points	300
	Final Exam (comprehensive)	150
	Lecture quizzes: 10 pop quizzes @ 10 points =	<u>100</u>
	TOTAL POINTS:	550

Tentative Lecture Schedule and Reading Assignments:

DATE	LECTURE TOPICS	CHAPTER	PAGES
AUG 23	Intro. Origin of life. Get textbook ASAP!!	1	1-15
AUG 25	Origin of Life, Chemistry of Life (Carbs)	1, 2	1-15, 16-37
AUG 30	Chemistry of Life (Lipids, Proteins)	2	22-29
SEP 1	Chemistry of Life (Nucleic Acids, Secondary Metabolites)	2	29-35
SEP 6	Cell Structure & Function	3	38-74
SEP 8	Growth, Cell Cycle, Mitosis, Cytokinesis	3	62-74
SEP 13	Sexual Reproduction; Meiosis	8	152-159
SEP 15	Molecular Biology (DNA, RNA: how they function)	9	174-181
SEP 20	FIRST EXAM		
SEP 22	Molecular Biology (Protein synthesis)	9	180-191
SEP 27	Diffusion of Chemicals through Membranes	4	75-81
SEP 29	Other kinds of movement through membranes	4	82-91
OCT 4	Flow of Energy, Oxidation & Reduction; Enzymes	5	94-106
OCT 6	Photosynthesis (Solar Energy → Chemical Energy)	7	122-149
OCT 11	Photosynthesis	7	122-149
OCT 13	Respiration (Chemical Energy → ATP Energy)	6	107-121
OCT 18	SECOND EXAM		
OCT 20	Genetics	8	152-173
OCT 25	Genetics	8	152-173
OCT 27	Genetics	8	152-173
NOV 1	Evolution	11	209-231
NOV 3	Evolution	11	209-231
NOV 8	Nomenclature, Taxonomy & Systematics	12	234-240
NOV 10	Prokaryotes & Eukaryotes; Alternation of Generations	12, 17	240-255; Fig. 17-8.
NOV 15	THIRD EXAM		
NOV 17	Tissues and Organs of the Plant Body	23, 24	538-578
NOV 22	Tissues and Organs of the Plant Body	23, 24	538-578
NOV 23-27	Thanksgiving holidays		
NOV 29	Ecology		www.whfreeman.com/raven8e
DEC 1	Dead Day (R.I.P.)		
DEC 5, Monday	FINAL EXAM: Tuesday, 10:15 a.m., WSB 201		

ATTENDANCE is required. Students will be dropped with an F for excessive unexcused absences, defined as unexcused absences that exceed 20% of the course (i.e., 6 lectures in this course). Note that when you miss a lecture you may also be missing a quiz.

DISABILITIES INFORMATION: It is Sul Ross State University policy to provide reasonable accommodation to students with disabilities. Qualified students with disabilities needing academic or other accommodations to ensure full participation in the programs, services and activities at Sul Ross State University should contact the Counseling and Accessibility Center, Ferguson Hall 112, Box 122, Alpine, TX 79832 (phone 432-837-8203).