GENERAL BOTANY, BIO 1311, & BIO 1111, FALL 2019
Sul Ross State University/Alpine High School
Dual-Credit Syllabus

Instructor: Barbara Scown

Email: bscown@alpineisd.net

Textbooks: Evert and Eichhorn, *Raven Biology of Plants*, 8th edition. Zech and Powell, *Discover the Chihuahuan Desert: General Botany. A Laboratory Manual for Biology 1401*, 2nd Edition.

Course Description: A general survey of the plant kingdom which considers the fundamentals of biological principles and processes as they apply to plants. Structure and functions of the organs of representative plants will be elucidated, as well as molecular and cellular structure and functions of living plants. The interactions of genetically based form and function with the environment is a major theme of the course.

Tentative Lecture Schedule and Reading Assignments:

WEEK	DATE	LECTURE & LAB TOPICS	CHAPTERS	PAGES
1	8/26	Introduction	Lecture-1	1-8
1	8/27, 8/28	PRETEST, Chemistry of Life (PLO#1#3&#5)	Lecture-1,2	1-37
2	8/29, 8/30 ,9/3 9/4	Cell Structure & Function--- Cell Transport (PLO#1#3&#5)	Lecture-3,4	38-62,75-91
2	9/9, 9/10	Planting Fast Plants/Cell Structure (PLO#3)	**Lab 1**	Lab manual 1-15
3	9/11, 9/12, 9/13	Cell Cycle-Mitosis (PLO #3& #6)	Lecture-3,8 , **LAB 2**	62-74;lab manual-28-31
3	9/16, 9/17,	Meiosis (PLO #3 #6 &#4)	Lecture-3,8	155-159
4	9/18, 9/21, 9/22, 9/23	DNA, RNA, Protein Synthesis (PLO #6)	Lecture-9 DNA Lab	174-191
4	9/21	Review		
4	9/25	**FIRST EXAM(PLOs #1,#3, #4 #6)**		
5	9/26	Plant Tissues(PLO 3 & # 6)	Lecture-23;25	538-557;579-583
5	9/27, 9/30,	Roots & Root Systems)(PLO #3)	24,**LAB 3**	558-578 lab manual-
5	10/1, 10/2	Stems Primary & Sec. Growth (PLO#3 #6)	**LAB 4** Lecture-23,24	613-635; Lab Manual 44-61

6	10/3, 10/4, 10/7	Primary Growth: Leaves(PLO#3 #5&#6)	23 &25	538-557,
6	10/8, 10/9	Leaf morphology & modifications (PLO #3 #5& #6)	**LAB 5-FP Intro Rough Draft Due** Lecture-25	Lecture-579-613
7	10/10	**Midterm Lab Practical Exam (PLO #3 #5 #6)**		
7	10/15	Photosynthesis (PLO #5)	Lecture-7	122-149
8	10/16, 10/17	Aerobic Respiration (PLO #1)	Lecture-6	107-119
8	10/17, 10/18	Flow of Energy/ Ecology(PLO #1)	Lecture-5	92-106
9	10/18	Review		
9	10/22	**SECOND EXAM(PLO #1#3 #5 #6)**		
9	10/23, 10/24, 10/25	Nomenclature/ Taxonomy & Mendelian Genetics(PLO#4)	Lecture 12 **LAB 6**	234-250 lab manual-82-90
10	10/28 10/29, 10/30, 11/1	Bacteria, Algae, Fungi (PLO #3#5)	**LAB 7—FP Materials/Method s Rough Draft Due**	**91-103**
11	11/4, 11/5, 11/6, 11/7	Non-Vascular Plants: Bryophytes (Liverwort & Moss Life 11/8,Cycles)(PLO# 2)	Lecture16 **LAB 8**	366-390 Lab manual- 104-119
12	11/8, 11/11, 11/12,	Seedless Vascular Plants: Fern & Fern Allies (PLO #2)	Lecture 17 **LAB 9-FP Results/Discussion Rough Draft Due**	391-429 lab manual 120-132
13	11/13	Review, **THIRD EXAM (PLO #2 #3 #4 #5)**		
13	11/14, 11/15, 11/18	Vascular seed Plants: Gymnosperms	Lecture—18 **Lab 10**	430-455 Lab Manual- 133-147
14	11/19, 11/20, 11/21	Vascular Seed Plants:	**Lab 11—Fast Plants Final Report Due**	

		Angiosperms (monocots, dicots)		
15	12/2, 12/3, 12/4 12/10(?)	Vascular Seed Plants: Angiosperms (flowers ,fruit, seeds) FinalExam-TBA	Lecture 18 (PLO# 1, #2, #3,#4, #5, #6)	457-496

Program Learning Outcomes

The graduating biology student graduating with a BS in Biology should be able to:

1) Demonstrate a mastery of aerobic respiration and its significance for living organisms.
1) Be able to identify evolution and the processes that influence it.
3) Be able to identify the components of cell structure and their functions.
4) Compare the fundamental concepts of Mendelian genetics.
5) Compare and contrast the process of photosynthesis to other cellular processes.
6) Be able to identify the processes of molecular biology.

OBJECTIVES OF THIS COURSE (INCLUDING LAB):

1. The student will understand the role of key figures and events in the history of biological science.
2. The student will be able to apply terminology relevant to biological laboratory and field work.
3. The student will explore the applications of scientific skills and knowledge to daily living.
4. The student will understand the safe and proper use of laboratory and field equipment and supplies.
5. The student will understand the principles of experimental laboratory research and proper reporting techniques.
6. The student will understand principles of plant classification and nomenclature.
7. The student will recognize major cell structures and their function.
8. The student will analyze cell division and reproduction.
9. The student will understand respiration and photosynthesis.
10. The student will understand the role of DNA and RNA in the process of protein synthesis.
11. The student will understand genes, and chromosomes.
12. The student will analyze characteristics of fungi, algae, mosses, and ferns.
13. The student will analyze characteristics of gymnosperms and angiosperms.
14. The student will analyze characteristics of roots, stems, and leaves.
15. The student will understand mechanisms of plant reproduction.

16. The student will understand the effects that humans and plants have on the environment.

POINT DISTRIBUTION:

Three Lecture Exams @ 100 points	300
10 Lecture Quizzes	100
Final Exam (comprehensive)	150
TOTAL POINTS LECTURE:	550
Lab 10 weekly quizzes @ 10 points each	100
Lab Midterm practical exam	100
Lab Final practical exam	100
Lab Report (Fast Plants)	50
TOTAL LAB POINTS:	350
TOTAL POINTS COURSE:	**900**

GRADING: Grades as a percentage of 900 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 not strictly objective (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.

I DO NOT "GIVE" GRADES. YOU EARN YOUR GRADE. (No "extra credit")

Attendance is required in both lecture and lab.

Classroom courtesy:

Listen to lecture, take notes--do not talk during lecture.
Talking between students in class is distracting and interferes with other students' ability to hear what the instructor is saying.

Turn **off** your cell phone when you come to class. Phones are not allowed in class(only exception is for lab use and with my permission)

Bring all materials to class, turn in assignments on time.

At all times be respectful of others

DISABI LITIES 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 1 12, Box 122, Alpine, TX 79832 (phone 432-837-8203).