BIOLOGY 4354/5354 Fall 2017

CRN 11499/11500 **Tentative Syllabus**

PLANT ANATOMY (LECTURE)*

All Sections: M W 4:00 - 6:50 PM
Howell Hall: Room 154
http://www.metabolism.net/bidlack/
http://biology.uco.edu/bidlack/

Dr. Jim Bidlack

301B Howell Hall; Phone: (405) 974-5927
E-mail: jbidlack@uco.edu
Office Hours: M W 2:00 - 3:50 PM
or by appointment

PLANT ANATOMY: This course includes a study of external and internal structures of vascular plants with attention to correlating structure with function. Students will be required to complete an individual research project as part of the course. It consists of three hours of lecture and three hours of laboratory per week. Prerequisite(s): Two of the following courses (BIO 3303, BIO 3054, BIO 3543, or BIO 3703) and STAT 2103 all with a minimum grade of "C."

***All students must attend PLANT ANATOMY LAB. It meets on Mondays and Wednesdays from 4:00 to 6:50 PM in Room 154 of Howell Hall.**

Lecture Textbook: Evert, R.F. 2006. *Esau's Plant Anatomy*. Third Edition. John Wiley & Sons, Inc., New York, NY.

Date		Lecture topic	Chapter	Pages
August				
21	M	Introduction, general plant morphology	1,5	1-12,108-110
23	W	Roots and stems	1,6	1-12,138-164
28	M	Leaves and flowers	1,9,16	1-12,218-243,456-462
30	W	Generalized cell structure & organelles	2,3	15-37,45-58
September				
4	M	Labor Day Holiday		
6	W	Cell wall and epidermis	4,9	65-91,211-243
11	M	**EXAM I**		
13	W	General cell and tissue types	1	1-12
18	M	Microscope technology demonstration		
20	W	Parenchyma, collenchyma, & sclerenchyma	7,8	175-187,191-207
25	M	Xylem	10	255-283
27	W	Phloem	13,14	357-398,407-424
October				
2	M	Absorption & transport	10,13	263-266,379-382, lecture notes
4	W	Stele types, nodal patterns, and bundles	14,16,18	217-225,233-242, 261-271,323-328
9	M	**EXAM II**		
11	W	Stele types, nodal patterns, and bundles	1,5,13	1-12,106-110, 357-359,393-398

Date		Lecture topic	Chapter	Pages
October (continued)				
16	M	Primary root & root systems	6	152-164
18	W	Root structure, development, & specialization	6,9	152-164,234-235
23	M	Secondary root	11,14	291-316,407-424
25	W	Primary stem structure & development	6	133-152
30	M	Secondary stem development	11,14	291-316,407-424
November				
1	W	Wood anatomy: secondary xylem & phloem	11,14	291-316,407-424
6	M	Other aspects of woody growth		lecture notes
8	W	Leaf venation and development	6,9,13	147-149,211-243, 382-386
13	M	Leaf structure	6	147-149,211-243
15	W	Variations in leaf structure		lecture notes
20	M	**EXAM III**		
22	W	Happy Thanksgiving!		
27	M	Secretory structures	16,17	447-466,473-495
29	W	Angiosperm life cycle	1	1-13,lecture notes
December				
4	M	Seeds and seedlings	8	201-202,lecture notes
6	W	Fruits	8	201,lecture notes
11-15		**FINAL EXAMINATIONS**		

Final exam is scheduled for Friday, 15 December 2017 at 3:00 – 4:50 PM. The final exam will be approximately 1/2 comprehensive and 1/2 new material. ***Note that the final exam is scheduled for the last day during finals week. What a great opportunity to study!***

Additional Course Information

Students are encouraged to read the book before coming to class. Review what pages will be discussed in lecture by looking at the pictures, figures, and illustrations. Read the text to acquaint yourself with the learning material. If you prefer computer, Internet, and multimedia presentations, try using the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) at http://www.merlot.org/ and search the term, "plant anatomy." Lecture notes and other materials are also available in MS-WORD and Adobe Acrobat format at http://www.metabolism.net/bidlack/ or http://biology.uco.edu/bidlack/

The Central Six

At the University of Central Oklahoma, we are guided by the mission of helping students learn by providing transformative experiences so that they may become productive, creative, ethical and engaged citizens and leaders contributing to the intellectual, cultural, economic and social advancement of the communities they serve. Transformative learning is a holistic process that places students at the center of their own active and reflective learning experiences. A student's major field is central to the learning experience and is a vital part of the "Central Six." All students will be transformed with Discipline Knowledge, Leadership, Problem Solving (Research, Scholarly and Creative Activities), Service Learning and Civic Engagement, Global and Cultural Competencies, and Health and Wellness.

BIOLOGY 4354/5354
PLANT ANATOMY AND PLANT ANATOMY LAB

Fall 2017 - CRN 11499/11500

Instructor: Dr. Jim Bidlack

Office Phone: (405) 974-5927 UCO Weather Line: (405) 974-2002
E-Mail: jbidlack@uco.edu
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Office: M W 2:00 – 3:50 PM or by appointment, 301B Howell Hall

Avoid Scheduling Office Visits Just Before Class

Lecture Textbook: Evert, R.F. 2006. *Esau's Plant Anatomy*. Third Edition. John Wiley & Sons, Inc., New York, NY.

Lab Textbook: Amiet, C.F., and J.E. Bidlack. 2017. *Laboratory Guide to Plant Anatomy*. Fourteenth Edition. Available in class.

Attendance: Students are expected to attend, learn, and take notes in all classes. At least three hours of study time should be devoted to each hour of class before and/or after lecture.

Grading: **An approximate breakdown of points for the course is as follows:**

3 lecture exams @ 100 points each	**300**
1 final exam @ 200 points	**200**
Lab Reports and Article Summaries	**200**
Microscope Technology Project	**100***
TOTAL POSSIBLE POINTS	**800**

Grading scale	**Grade**	**Points needed**
90 -100% of total possible points	**A**	**720**
80 - 89% of total possible points	**B**	**640**
70 - 79% of total possible points	**C**	**560**
60 - 69% of total possible points	**D**	**480**
Below 60% of total possible points	**F**	**-**

Exam material: A majority of exam material will come directly from lecture. For best performance, read the assigned text before attending lecture and review lecture notes after each class. Study your notes carefully and review the major topics provided in the text prior to each exam.

Exam: Semester exams, quizzes, and the final exam will consist of multiple choice, matching, true-false, drawing, short answer, and essay questions. All exams count in determining the final grade. Make-up exams will be given only in extenuating circumstances and will usually consist of long essay questions.

Cheating: All work should be that of the student alone. No communication, notes, or wireless devices are permitted during any exam. If the instructor determines that a student has cheated on an exam or any assignment, the student will receive no credit for that exam or assignment and the student's name will be reported to the proper authorities.

****Graduate students (BIO 5354) will be required to perform a potentially publishable research project in addition to the microscope technology project.***

For additional student information that accompanies this syllabus, go to the link on the Internet at:

http://www.uco.edu/academic-affairs/files/aa-forms/StudentInfoSheet.pdf