



BIOLOGY 3024

CRN 21369

Spring 2018

Tentative Syllabus

PLANT PHYSIOLOGY (LECTURE)*

CRN 21369: M W 4:00 - 6:50 PM

257 Howell Hall

<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

***All students must attend PLANT PHYSIOLOGY LAB. It also meets Mondays and Wednesdays from 4:00 to 6:50 PM.**

PLANT PHYSIOLOGY: This course provides an introductory investigation of vascular plant physiology. Topics include photosynthesis and respiration, secondary metabolism, mineral nutrition, and plant growth regulation. The course consists of three hours lecture and three hours laboratory per week. Prerequisite(s): BIO 1225, 2203, one of the following (3054, 3543, 3703, 3303) and STAT 2103 all with a minimum grade of "C."

<u>Date</u>	<u>Lecture topic</u>	<u>Chapter</u>	<u>Pages</u>
January			
8,10	MW Introduction, levels of organization Inorganic and organic chemistry Biological molecules (Part I)	1 1,7,8	1-10 lecture notes 11-13,180-190, 206-207,226-227
15,17	MW MARTIN LUTHER KING HOLIDAY Biological molecules (Part II)	11,12	292-295,321, 343-346 lecture notes
22,24	MW Plant cells, anatomy, & physiology Overview of metabolism	1,14	1-49,379-495 lecture notes
29,31	MW LIGHT RXNS: Photosynth. - light capture LIGHT RXNS: Photosystems I and II	7 7	171-185 185-202
February			
5,7	MW DARK RXNS: CO ₂ fixation - Calvin cycle DARK RXNS: C-3, C-4, and CAM plants	8 8	203-220 220-244
12,14	MW EXAM I Other aspects of photosynthesis Additional exam material	9,10	245-268,269-284
19,21	MW Structure & function of enzymes Glycolysis Krebs (TCA) cycle	13 12 12	358-361 317-324 326-329

<u>Date</u>	<u>Lecture topic</u>	<u>Chapter</u>	<u>Pages</u>
February (continued)			
26,28 MW	Electron transport. & oxid. phosphoryl.	12	329-340
March			
5,7 MW	Pentose phosphate & respiration perspective	12	324-326,340-352
	Nitrogen and sulfur metabolism	13	353-376
12,14 MW	Secondary metabolism	23	693-729
	Plant molecular biology	1,2,15	13-25,51-79, 407-445
19,21 MW	SPRING BREAK		
26,28 MW	EXAM II		
	Thermodynamics, water potential	3	83-98
	Xylem transport	4	99-118
April			
2,4 MW	Plant nutrition	5,6	119-142,143-168
	Phloem transport and partitioning	11	285-316
	Photosynthesis-transpiration compromise	4,10	110-118,269-284
9,11 MW	Growth and development	17,18	477-511,513-552
	Plant growth regulation - Part 1	19,20	553-623
	Plant growth regulation - Part 2	21,22	625-692
16,18 MW	EXAM III		
	Photomorphogenesis	16	447-476
	Photoperiodism	20	597-605
	Responses to temperature	9,20,24	255-264,605-608, 736-737
23,25 MW	Circadian rhythms, geotropism	5,16,18,20	133-137,467, 528-534,594-597
	Environmental and stress physiology	24	731-761
May			
4 F	FINAL EXAMINATION		

CRN 21369: The Final Exam is scheduled for Friday, 4 May 2018 at 3:00 - 4:50 PM. It will be 1/2 comprehensive and 1/2 new material. *The final exam is scheduled for the last day of finals week. What a great opportunity to study!*

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](#).

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PLANT PHYSIOLOGY AND PLANT PHYSIOLOGY LAB

Spring 2018 - CRN 21369

Instructor: Dr. Jim Bidlack

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Internet: <http://www.metabolism.net/bidlack/> or <http://biology.uco.edu/bidlack/>

Office: M W 2:00 - 3:50 PM, 301B Howell Hall

Avoid Scheduling Office Visits Just Before Class

Lecture Textbook: Taiz, L., E. Zeiger, I. Moller, and A. Murphy. 2015. Plant physiology and development. 6th edition. Sinauer Associates, Inc., Publishers, Sunderland, MA.

Lab Textbook: Bidlack, J. E. 2018. Plant physiology laboratory manual. 14th edition. Available in class.

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	300

TOTAL POSSIBLE POINTS	800
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Grading scale	Grade	Minimum 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.

Exams: Semester exams, quizzes, and the final exam will consist of mostly short answer and essay with some fill-in-the-blank, multiple-choice, matching, and true-false 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.

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>