

PLANT BIOLOGY 630—PLANT PHYSIOLOGY
(Call # 03164-1, 3 credits)
Pomerene Hall, Room 208, MW 11:30 AM – 12:48 PM

Syllabus for Fall Quarter 2005

INSTRUCTOR:

Dr. Greg Armstrong (armstrong.275@osu.edu), 614.292.4817, 586 Aronoff Laboratory
Office hours—by appointment

INFORMATION ABOUT PLANT PHYSIOLOGY:

Format:

Plant Biology 630 is a 3-credit lecture course in which class participation and interaction with the instructor are strongly encouraged. Basic concepts and problems common to higher plants will be addressed, with an emphasis on molecular and biochemical aspects of physiology. Topics to be covered include plant cell structure and function, water relations, mineral nutrition, solutes, photosynthesis, translocation, respiration, lipids, and secondary metabolites. The course will be divided into three sections, each of which will be followed by a mid-term or final examination.

Lecture text and notes:

Plant Physiology 3rd edition (2002) by Lincoln Taiz and Eduardo Zeiger (Publisher: Sinauer Associates, Sunderland, MA) will be used as the primary text.

In addition, supplementary material may be included as needed from a text-associated web site (www.plantphys.net), from *Biochemistry and Molecular Biology of Plants* (2000) edited by Bob B. Buchanan, Wilhelm Gruissem, and Russell L. Jones (Publisher: American Society of Plant Biologists, Rockville, MD), and from the recent scientific literature.

Lecture notes derived from Powerpoint presentations of the course material will be available for downloading from the OSU Electronic Reserves (<http://reserves.lib.ohio-state.edu/current/Eres/eres2001.php>). The primary text and lecture notes will also be available as hard copies on closed reserve at the Biological Sciences Library.

Attendance:

Students are required to attend class regularly. If an absence is unavoidable, please contact the instructor in advance.

Course schedule:

<u>Date</u>	<u>Lecture</u>	<u>Topic</u>	<u>Material Covered</u>
Sept. 21	1	Introduction / Plant Cells	Chapter 1
Sept. 26	2	Plant Cells / Water and Plant Cells	Chapters 1, 3
Sept. 28	3	Water and Plant Cells / Water Balance of Plants	Chapters 3, 4
Oct. 3	4	Water Balance of Plants	Chapter 4
Oct. 5	5	Mineral Nutrition	Chapter 5
Oct. 10	6	Solute Transport	Chapter 6
Oct. 12	7	Solute Transport / Photosynthesis: The Light Reactions	Chapters 6, 7

Oct. 17		First Mid-Term Exam (Chapters 1, 3, 4, 5, 6), 100 points	
Oct. 19	8	Photosynthesis: The Light Reactions	Chapter 7
Oct. 24	9	Photosynthesis: The Light Reactions / Photosynthesis: Carbon Reactions	Chapters 7, 8
Oct. 26	10	Photosynthesis: Carbon Reactions	Chapter 8
Oct. 31	11	Photosynthesis: Carbon Reactions / Photosynthesis: Physiological and Ecological Considerations	Chapters 8, 9
Nov. 2	12	Photosynthesis: Physiological and Ecological Considerations	Chapter 9
Nov. 7	13	Translocation in the Phloem	Chapter 10
Nov. 9		Second Mid-Term Exam (Chapters 7, 8, 9), 100 points	
Nov. 14	14	Translocation in the Phloem	Chapter 10
Nov. 16	15	Respiration and Lipid Metabolism	Chapter 11
Nov. 21	16	Respiration and Lipid Metabolism	Chapter 11
Nov. 23	17	Assimilation of Mineral Nutrients	Chapter 12
Nov. 28	18	Assimilation of Mineral Nutrients / Secondary Metabolites and Plant Defense	Chapters 12, 13
Nov. 30	19	Secondary Metabolites and Plant Defense	Chapter 13
Dec. 5		Final Exam (comprehensive, with 67% based on material from Chapters 10, 11, 12, 13), 200 points; 11:30 AM – 1:18 PM in Pomerene 208	

COURSE GRADING and POLICIES:

Mid-term exam 1	100 points	(25 % of total)
Mid-term exam 2	100 points	(25 % of total)
Final exam	200 points	(50 % of total)
TOTAL	400 points	(100 %)

<u>%</u>	<u>Total Points</u>	<u>Approximate Grade*</u>
90-100	360-400	A range
80-89	320-359	B range
70-79	280-319	C range
60-69	240-279	D range
0-59	0-239	E

*The final grade distribution may be curved, if appropriate. Classroom participation will be taken into account for students with borderline grades.

Policy on examinations:

To insure that all students receive fair and equal treatment, the following policies regarding examinations will be followed:

Every student is required to complete all course examinations, including the final.

A student who misses an examination, and who has a written medical excuse (from the Student Health Center or a physician) is permitted to make up the examination. The make-up does not have to be the same format as the original examination.

A student who misses an examination, and who does not have a written medical excuse, or some other reasonable excuse, is NOT permitted to make up the examination. Reasonable excuses should be limited to problems that are beyond the student's control, such as military duty, intercollegiate athletic or academic activities, funerals, etc. The student should provide written documentation of these activities.

The instructor must be notified within one week of a missed exam that a student has a valid medical excuse or other reasonable excuse, as defined above, in order to schedule a make-up exam.

Students are required to arrive on time for completing scheduled make up work. Late arrival will result in no credit for the make up examination.

Students are not allowed to take examinations (including the final) early unless they have a reasonable excuse, as defined above.

Policy on cheating:

Cheating will not be tolerated. Any case in which a student is suspected of violating the Code of Student Conduct (cheating) will be turned over to the Committee on Academic Misconduct (COAM). The following are examples:

Any type of copying during examinations or quizzes (including the use of notes or a crib sheet).

A ringer taking an examination for someone else.

Alteration of any grade or other mark on any course assignment by a student in an effort to change the earned grade or credit received from the assignment.