

Ecology and Evolutionary Biology 162
Plant Physiology
Spring Quarter 2008

Course website: <http://www.lsic.ucla.edu/classes/spring08/>

Text: Lincoln Taiz and Eduardo Zeiger 2006
Plant Physiology, 4th Edition.
Published by The Benjamin/Cummings Publ. Co.
Web Site: <http://www.plantphys.net/>

Tuesdays and Thursdays, 11AM-12:15PM, Geology 3656

Instructor: Dr. Lawren Sack (EEB)
Office Hours: Tuesdays/Thursdays 130-3PM, Botany 118
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Teaching Assistants: Travis Brooks
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Grading:

Mid-term	25%
Laboratory	25%
Final examination	50%

Note: No makeup tests will be given for either the midterm or final.

Labs are mandatory. Please arrange with your TA if you need to miss a lab session for medical reasons. If you cannot attend your scheduled lab time, you must make arrangements with another T.A. to attend his/her class.

Late lab assignments will be penalized by 5% per day.

Course Objectives

This course focuses on whole plant physiology, from the biochemical and molecular processes to whole-plant function. Students will gain an understanding and appreciation of plant function, including the dynamic processes of growth, development and reproduction. Students should be able to apply the knowledge gained to evolutionary, ecological and plant production problems. The lecture and laboratory are co-requisites. In the laboratory, students will become scientists, apply physiological techniques to answer questions on plant function.

2008		Topic	T&Z	Weekly Lab Study
April	1	Diversity of Plant Form and Physiology	1	<i>Organization / Safety</i>
	3	Water and Plant Cells	3	
	8	Plant Water Balance	4	<i>Seed and Seedling Structure</i>
	10	Mineral Nutrition	5	
	15	Photosynthesis: Chloroplast & Light Reactions	7	<i>Photosynthetic Pigments</i>
	17	Photosynthesis: Light Reactions	7	
	22	Photosynthesis: Carbon Fixation	8	<i>Seed Storage Proteins</i>
	24	Photosynthesis: Ecological Diversity	9	
	29	Midterm		<i>Mineral Assimilation: Nitrate Reductase; FastPlant Setup</i>
May	1	Phloem Translocation	10	
	6	Respiration	11	<i>Cell Solute Potential and Turgor</i>
	8	Nutrient Assimilation and Transport	6,12	
	13	Whole Plant Growth		<i>Transpiration and Stomatal Aperture</i>
	15	Growth, Development & Differentiation	16	
	20	Phytochrome & Photomorphogenesis	17,18	<i>Auxin and Growth Regulation</i>
	22	The Control of Flowering	25	
	27	Overview of Plant Growth Regulators, Auxin	19	<i>Gravitropism and Phototropism</i>
	29	Ethylene and Abscisic Acid	22,23	
June	3	Gibberellins, Cytokinins and Other PGRs	20,21	<i>Whole Plant Growth Responses</i>
	5	Plant Physiology and Climate Change		