PS532 Environmental Plant Ecophysiology (3) – Fall 2016

Instructor:
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348 Plant Biotechnology Building
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Class:
Ellington Plant Sciences Bldg. room 128, 11:10 am – 12:25 pm Tuesday and Thursday

Course description and learning objective:
To learn physiological and ecological principles of plants and the relation of those principles to plant responses to the environment. Topics include water relations, photosynthesis, physiological controls over plant growth and development, stress physiology, plant interactions with biotic agents, impact of plant biotechnology, and introduction to environmental genomics. Prereq: Biology PS348 or equivalent.

Textbook:
"Plant Physiology and Development", by Lincoln Taiz, Eduardo Zeiger, Ian Max Moller and Angus Murphy, sixth edition, Sinauer Associates, Inc., Publishers

University's honor statement:
"An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity."

Evaluation and grades:

Mid-term exam	200 pts
Final exam	200 pts
Presentation	75 pts
Class participation	25 pts
	500 pts total

Grading (%)	≥ 92 = A	460 pts
	86-92 = B+	430 pts
	80-85 = B	400 pts
	76-79 = C+	380 pts
	68-75 = C	340 pts
	60-67 = D	300 pts
	< 60 = F	<300 pts

PS532 Schedule 2016

Month	Date	Topic	Lecturer	Recommended reading
Aug	18 R	Introduction: objectives, format, and grading	Chen	
	23 T	A review of plant anatomy	Chen	Chap. 1
	25 R	Water relations	Chen	Chap. 3,4
	30T	Drought ecophysiology	Chen	Chap. 24
Sep	1 R	***ADMINISTRATIVE CLOSING***		
	6 T	Photosynthesis	Chen	Chap. 7,8
	8 R	Photosynthesis: physiological and ecological considerations	Chen	Chap. 9
	13 T	Respiration: basics and its relation to plant productivity	Chen	Chap. 12
	15 R	Secondary metabolites and their roles in biology/ecology	Chen	Handout
	20 T	An overview on plant growth and development	Chen	Handout
	22 R	Cell walls: structure, biogenesis and bioenergy		Chap. 14
	27 T	**MID-TERM EXAM**	Chen	
	29 R	Plant hormones: types, functions and evolution	Chen	Chap. 15
Oct	4 T	Phytochrome: biology and ecological functions	Chen	Chap. 16
	7 R	***FALL BREAK***		
	11 T	Flowering: how plants time it	Chen	Chap. 20
	13 R	Seed formation and dormancy	Chen	Chap. 17,18
	18 T	Seed germination and seedling establishment	Chen	Chap. 18
	20 R	Senescence: how and why plants commit suicide	Chen	Chap. 22
	25 T	Plant interactions with biotic agents	Chen	Chap. 23
	27 R	Stress physiology	Chen	Chap. 24
Nov	1 T	Case study: volatile-mediated plant-insect interactions	Chen	Handout
	3 R	Plant biotechnology: basics and ecological concerns	Chen	Handout
	8 T	Student presentations		
	10 R	Student presentations		
	15 T	Student presentations		
	17 R	Student presentations		
	22 T	Student presentations		
	24 R	THANKSGIVING Holiday		
	29 T	Course review	Chen	
Dec	1 R	NO CLASS. STUDY PERIOD.		
	5 M	**FINAL EXAM: 10:15 a.m. – 12:15 p.m. Ellington Plant Sciences Bldg 128,**		