

PLB 425 – ENVIRONMENTAL PHYSIOLOGY OF PLANTS
Spring Semester – 2012

Lectures: Monday, Wednesday, Friday; 12:00 – 12:50 p.m., Life Science II, Rm 430
Instructor: Dr. Stephen Ebbs, LS II, Rm 469B, 453-3226, sebbs@plant.siu.edu
Office Hours: MWF 10-12 or by appointment
Required reading: Book chapters, review articles, and primary literature as assigned
Websites: mycourses.siu.edu (Handouts and supplementary readings may be posted to D2L)

Description:

The environmental physiology of plants focuses primarily on the influence of abiotic factors such as light, water, temperature, mineral nutrients, pollutants, and other abiotic factors on plant biochemistry, physiology, growth, development, and yield. The physiological, biochemical, and molecular basis of abiotic stress will be explored.

Supplementary reading material:

There is only one published book that addresses this particular subject matter and it is in my opinion only a cursory examination of this subject. We are skating here on the boundary between ecology and physiology, and perhaps other disciplines as well, making this a proverbial grey area. The primary reading material that will be assigned for some of the lectures will include book chapters, reviews, and other primary literature that provides information on the topics I wish to cover. If assigned, these readings should be considered mandatory as the content of those readings may be included in the exams. These readings will generally be from the primary literature, including research papers and reviews. For students who have not previously had a course in plant physiology, a copy of a general plant physiology textbook has been placed in the departmental lounge near the telephone. If possible, please restrict your usage of the book to that room so that others can gain access if necessary. While the lectures will generally offer some review of physiological processes, a complete understanding of those processes may require some additional reading.

Grading:

Take home essay/exams	400 pts (100 pts each)
Final exam	100 pts
TOTAL	500 pts

The final exam is Thursday, May 10 at 12:50 PM

Emergency Procedures:

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

PLB 530 Schedule

Week	Date	Lecture topic	
1	Jan 16	No class	
	Jan 18	Course introduction	
	Jan 20	The energy environment - light	
2	Jan 23	The energy environment - light	
	Jan 25	The energy environment - light	
	Jan 27	The energy environment - light	
3	Jan 30	The energy environment - light	
	Feb 1	The energy environment - light	
	Feb 3	The energy environment - light	
4	Feb 6	The energy environment - other energies	Take home #1 due
	Feb 8	The energy environment - other energies	
	Feb 10	The energy environment - temperature	
5	Feb 13	The energy environment - temperature	
	Feb 15	The energy environment - temperature	
	Feb 17	The atmosphere	
6	Feb 20	The atmosphere	
	Feb 22	The atmosphere	
	Feb 24	The atmosphere	
7	Feb 27	The atmosphere	
	Feb 29	The atmosphere	
	Mar 2	The atmosphere	
8	Mar 5	The hydrosphere	
	Mar 7	The hydrosphere	
	Mar 9	The hydrosphere	Take home #2 due
9	Mar 10-18	SPRNG BREAK	
10	Mar 19	The hydrosphere	
	Mar 21	The hydrosphere	
	Mar 23	The hydrosphere	
11	Mar 26	The hydrosphere	
	Mar 28	The hydrosphere	
	Mar 30	The hydrosphere	
12	Apr 2	The pedosphere	
	Apr 4	The pedosphere	
	Apr 6	The pedosphere	Take home #3 due
13	Apr 9	The pedosphere	
	Apr 11	The pedosphere	
	Apr 13	The pedosphere	
14	Apr 16	The pedosphere	
	Apr 18	The pedosphere	
	Apr 20	The pedosphere	
15	Apr 23	The anthrosphere	
	Apr 25	The anthrosphere	
	Apr 27	The anthrosphere	
16	Apr 30	The anthrosphere	
	May 2	The anthrosphere	
	May 4	The anthrosphere	Take home #4 due

