INTRODUCTION TO PLANT PHYSIOLOGY- Fall 2018

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COURSE OBJECTIVES

PLSC410 is an upper level botany class focusing on plant physiology. Its objective is for students to get a good grasp of how plants function (acquire water and nutrients, photosynthesize, react to their environment), and how plant physiology is studied. Target groups are junior/senior students majoring in Plant Science, Biology/Botany, Horticulture, Soil and Crop Science, Forestry, Rangeland Ecology, and related areas. Graduate students are also welcome. The class meets twice a week: Tuesday/Thursday 2:00PM - 3:15 PM Sharp Lab Room 107

TEXT

* Textbook: "Plant Physiology" by Taiz & Zeiger (4th Ed., 2006, Sinauer Publ.). It is a good up to date book that will be useful in future years.

EXAMS

There will be three exams: two midterms and one comprehensive final. No grades will be dropped. Each midterm contributes 30% to your final grade; the final exam contributes 40%.
If you have a good reason to miss an exam, contact me beforehand. Any makeup exams will be completely in essay format, not multiple choices.

GRADING

The grading scale is as follows (= conventional grading):
90-100%: A
80-89%: B
70-79%: C
60-69%: D
< 60%: F
There is no curving of grades.

Attendance: You are expected to attend all regularly scheduled classes. If you know in advance that you will not be able to attend a class, please advise me. This is an upper level undergraduate course and all participants will be expected to conduct themselves in this regard.

STUDY HELP

For questions about the material, feel free to email me (hbais@udel.edu) or visit me in 131 Delaware Biotechnology Institute.

Office hours. Friday-9-11 am (Room 103B, DBI).

For those with little prior exposure to cell biology or biochemistry, be prepared to study a lot. Keep up with background reading, and ask help before it is too late. This course is offered only once a year in fall, so this applies especially to those of you who plan to graduate in May of next year.
PREREQUISITES: PLSC201 or BISC208
COURSE OUTLINE

There are three sections, each followed by an exam
Section I: Midterm EXAM 1:
Section II: Midterm EXAM 2:
Section III: Final Exam:

1. Aug 28- Introduction to plant physiology: approaches, methods
2. Aug 30- Plant cells
3. Sep 04- Water and plant cells
4. Sep 06- Water balance of plants
5. Sep 11- Plant Nutrition
6. Sep 13- Solute transport
7. Sep 18- Assimilation of mineral nutrients (end of Section-I)
8. Sep 20- Recap of Section-I
9. Sep 25- Midterm-Exam 1 for Section-I
10. Sep 27- Photosynthesis: light reactions-
11. Oct 02- Photosynthesis: Carbon reactions-
12. Oct 04- Eco-physiology. Photosynthesis
13. Oct 09- Translocation in the phloem
14. Oct 11- Respiration and lipid metabolism
15. Oct 16- Secondary metabolites and plant defense (end of Section-II)
16. Oct 18- Review for Section II
17. Oct 23- Midterm-Exam 2 for Section-II
18. Oct 25- Cell wall & Growth
19. Oct 30- Auxins
20. Nov 01 - Cytokinins
21. Nov 06- Election Day No Class
22. Nov 08- Abscisic acid, Gibberllins, Brassinosteroids , Phytochrome
23. Nov 13- Brassinosteroids, Phytochrome
24. Nov 15- Stress Physiology
25. Nov 20 - No Class Thanksgiving
26. Nov 22-No Class Thanksgiving
27. Dec 04- Review Day
28. Dec 06
28. Dec xx, 2018 Final Exam: Comprehensive

The book reading is meant to give you more background and to review the figures. The book has more detail than what is covered in class. The exams are only about what is covered in class. Still, I advise you to read the book, and keep it after class. It will be good to look up things related to plant biology during your future job.
Good luck in this course. I hope you will like it and learn a lot!