Course description: This course will introduce students to many aspects of plant growth and physiology, including the physical requirements for plant growth, how plants acquire and utilize nutrients, developmental transitions in the plant lifecycle, and how plants sense and respond to the environment. Particular emphasis is placed on how plants respond to changing environmental and ecological signals. Students completing PLS 360 will have a strong foundation for further coursework in plant development, crop production, and plant pathology.

Instructor: Dr. Jesse Woodson, jessewoodson@email.arizona.edu.

Office Hours: Dr. Woodson will hold drop-in office hours Tuesday 12-2 in Marley 541E.

Prerequisites: MCB 181 and 182; CHEM 103A, 103B, 241A, and 243A are required. PLS 312 (or equivalent genetics course), PLS 240, and PLS 359 are recommended. If you are unsure whether you are prepared for this course, please see the file “Am I prepared for PLS 360?” in D2L or email the instructor.

Course materials: The textbook for this course is Plant Physiology, Sixth edition, by Taiz and Zeiger. The textbook is suggested as a learning aid, but it is not required. All information will be presented in lecture or through additional materials (readings, videos) on D2L. There is also a required writing assignment based on The Botany of Desire: A Plant’s-Eye View of the World by Michael Pollan.

Website: This course will use D2L (http://www.d2l.arizona.edu/) for distribution of course material, and for administration of quizzes and the writing assignment. Students are encouraged to use D2L forums to ask questions, so that all students can benefit from the discussion. Lecture slides (without audio) will be available starting the day after presented in class.

Learning objectives:

(1) Appreciate the varying strategies that plants use to solve common challenges to life.

(2) Describe the requirements for and mechanistic basis of plant growth, including physiological responses to biotic and abiotic factors.

(3) Understand the role of major plant hormones in controlling plant development in changing environments.

(4) Communicate the importance of plant science in addressing major challenges facing society, including examples of how plant scientists have “solved” such problems.

(5) Develop a foundation for further coursework in plant development, biotechnology, crop production, and plant pathology.
Grading policy: Final grades will be assigned based on cumulative scores on all assessments. Cutoffs for letter grades will be determined at the discretion of the instructor (i.e., “curved”), but will not be higher than: 90% = A; 80% = B; 70% = C; 60% = D; <60% = E

Available points:

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>100 points (highest 10 scores @ 10 points each)</td>
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<tr>
<td>D2 forum participation</td>
<td>25 points</td>
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<tr>
<td>Writing assignment</td>
<td>75 points</td>
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<tr>
<td>Exam 1</td>
<td>100 points</td>
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<tr>
<td>Exam 2</td>
<td>100 points</td>
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<tr>
<td>Final exam</td>
<td>200 points</td>
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<td>Total</td>
<td>600 points</td>
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Quizzes: D2L quizzes will occur every week except exam weeks (and spring break) and must be completed by Sunday at midnight Tucson time. Quizzes are open-book, open-note, and open-classmate! You are encouraged to work together, but posting quiz questions and answers in the forum or via other sharing systems (e.g., a shared google document) is not appropriate. The purpose of working together is to talk through the questions to increase your understanding; copying correct answers does not help you learn. The lowest two quiz scores will be dropped.

In the first week of class, please log into D2L and take the practice quiz. This quiz will give you a chance to practice with the D2L quiz interface and will help the instructor gauge your prior knowledge. For this quiz only, please work alone and do not consult the textbook or internet. This quiz will not be graded, but you will receive bonus points for completing it.

Forum participation: Because active involvement is a critical part of learning, students are encouraged to interact with each other and the instructor. This can be via discussion forums on D2L or during drop-in office hours. For questions about course content, students should first ask questions via these forums before contacting the professor. Other students should provide answers or elaborate questions to build discussion. If another student has already answered a question, feel free to answer it again. Writing out an answer is the best way to practice for the exam!

The instructor will moderate all discussions and provide correction/clarification when necessary, however in the day before an exam the instructor will have limited time for questions and may be unavailable. Questions will not be answered during the exam day. Participation points will accrue based on the quantity and quality of each student’s interaction in the forum. Give it a try now – introduce yourself in the “Say Hello” forum and earn some bonus points!

Writing assignment: In The Botany of Desire: A Plant’s-Eye View of the World, Michael Pollen tells the story of four plants and how they have prospered by filling a human desire. You will choose one of these plants and write a short (~1000 word) essay based on that chapter. Essay prompts and a rubric for grading will be supplied via D2L. Essays are due March 17th. Because reading others’ writing is an important learning activity, you are also required to participate in anonymous peer-evaluation of essays. Peer-evaluations are due April 14th. Detailed instructions for this assignment are available in D2L.
Examinations: There will be two midterm examinations during the semester and a final exam. Approximately half of the final exam will cover material presented in the last third of the semester, with the remainder of the final exam being cumulative. Exams will consist of a mixture of short and long answer questions. You will have only 75 minutes to complete the midterm exams and 2 hours to complete the final exam. Unlike quizzes, all exams are taken individually and are closed-book and closed-note.

Honors Contract: Please speak with the instructor in the first week of class if you are interested in an Honors Contract.

Missed exams: If you know in advance that you will be unavailable during a quiz or exam period, inform the instructor at least 72 hours in advance. In the case of true emergencies when prior notification is not possible, contact the instructor by email as soon as possible to explain the situation. Rescheduling an exam under these conditions is at the discretion of the instructor. All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion and absences pre-approved by the UA Dean of Students (or Dean designee) will be honored as long as a 72 hour advanced notice is given.

Reaching the instructor: For questions that are not appropriate for a forum (e.g. personal in nature), email is the preferred method of communication. It is important to learn the appropriate way to email your professor. Here are a few simple rules:

(1) Include the course number and/or name in the subject line.
(2) Include a salutation (e.g., Dear Dr. Woodson or Hello Prof. Woodson).
(3) Write in full sentences with correct English grammar (no text-speak!)
(4) Sign with your first and last name

Emails that do not conform to these rules may be ignored. Other emails can expect a response within 2 academic days, but often sooner.

Online conduct: You are expected to behave respectfully to the instructor and other students at all times. Behavior that distracts other students or interferes with their ability to learn will not be tolerated. Remember that there is a record of everything you do and say online. Students are expected to be familiar with and to abide by the Arizona Board of Reagent’s policy on threatening behavior, which prohibits threats of physical harm to any member of the University community, including to one’s self (ABOR Policy 5-308, policy.arizona.edu/education-and-student-affairs/threatening-behavior-students). Students should also review the OIA’s guide for online learning at: http://enlinea.oia.arizona.edu/what_is2.html.
Special needs accommodations: It is the University’s goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let the instructor know immediately so that we can discuss options. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Students desiring special accommodation or services must register with the Disability Resources Center and request that official notification be sent to the instructor as soon as possible. The need for accommodations must be documented by the appropriate office. Students experiencing medical or emotional conditions that impact performance in the course but are not registered with the DRC should fully explain the situation to the instructor, preferably in writing. (As much as is possible the instructor will keep this information confidential, although no guarantees are made.) Such conditions will not be valid as an excuse for poor performance after an exam is taken.

Student code of academic integrity: The sharing of intellectual views and discussion of course material among students are encouraged, however quizzes, writing assignments, and exams must represent a student’s own work. All students should be familiar with and adhere to the UA Code of Academic Integrity as described in the UA General Catalog (http://deanofstudents.arizona.edu/codeofacademicintegrity). Infractions will be dealt with severely and may result in course failure or university expulsion.

Course withdrawal policy: Students wishing to withdraw from the course should inform the instructor and must execute the withdrawal according to the UA General Catalog. It is the responsibility of the student to be aware of pertinent deadlines for withdrawal.

Incomplete grades: No incomplete grades will be given without written agreement between the student and instructor regarding the work to be completed and a timetable for completion. Because grading for this course is based primarily on exams and quizzes, incomplete grades are very rare and will not be granted to retake the course because of poor performance. For more information, see the UA General Catalog.

Confidentiality: Student records will remain confidential in accordance with FERPA (http://www.registrar.arizona.edu/ferpa/default.htm).

Copyright: The instructor holds copyright for all lectures, lecture recordings, and original course materials. This includes notes taken by students that substantially reflect the lecture content. Copyrighted material is available for personal use by students and may be shared among students, however lecture notes and audio recordings may not be distributed or reproduced for a commercial purpose without the express written consent of the instructor. Selling your lecture notes online or in any other way is a violation of copyright and of the Code of Academic Integrity. The policies described in this syllabus, other than the grade and absence policy, may be subject to change with advanced notice, as deemed appropriate by the instructor. Changes will be posted on D2L and announced in lecture.