

BIOL 3427: Plant Science

Fall 2018

Time and Place of Class Meetings: Tuesday and Thursday: 09:30, LS 124

Important Dates:

- First day of classes: August 22nd
- Labor Day holiday: September 3rd
- Census date: September 7th
- Last day to Withdraw with a “W”: November 2nd
- Vote in mid-term elections: November 6th
- Thanksgiving holiday: November 22nd -23rd
- Last day of classes: December 4th
- Finals week: December 6th-12th

Instructor: Elijah Wostl, Ph.D.

Office: Life Sciences 459

E-mail: ewostl@uta.edu

Office Hours: M 12:00-1:00pm and T/Th 11:30am-12:30pm

Course Webpage: The Blackboard course webpage will contain lectures and other course material: <http://elearn.uta.edu>.

Laboratory Coordinator: Rachel Wostl

Office: Life Sciences 236

E-mail: rlwostl@uta.edu

Office Hours: T/W 2-3pm

Lab Instructors:

Heather Arterburn

E-mail: heathera@uta.edu

Office: LS 470

Office Hours: Monday and Thursday 10:30am-12:00pm

Joseph Mruzek

E-mail: joseph.mruzek@uta.edu

Office: LS 255B

Office Hours: M 2:00-3:30pm and Thursday 10:00- 11:30am

Description of Course Content: A survey of plant science including the importance of plants to people and the human side of botany; the structure, reproduction, physiology, ecology and classification of plants. The laboratory is designed to support and expand the course content of the lecture.

Student Learning Outcomes: For students to understand the importance of plants to humans and all other organisms on Earth, to review key concepts including photosynthesis and evolution of plants, and to distinguish groups of plants based on key characteristics. In lab students will conduct experiments with plants to learn about plant growth, reproduction, ecology and other relevant topics. Students will write lab reports summarizing their experiments to further their understanding of the scientific process.

Prerequisites: BIOL 1441, 1442, or equivalent.

Required Textbooks and Other Course Materials:

1. Biology of Plants, 7th or 8th Edition, by Raven et al., 2012, W.H. Freeman and Co.
2. i-clicker 1 or 2: 1498601634 by **September 4th**. These run from \$20-\$60 depending on where you buy one and if it is used or new. Any i>clicker should work, *but I cannot guarantee the REEF (phone app) will work in the classroom.*
3. Laboratory manuals are available for purchase from Phi Sigma, the Biology Graduate Student Society.

Phi Sigma is located in LS 127

Store Hours:

Aug 22 – Sep 13

Monday - Thursday 10am – 4pm

*** No sales will be held on Sep 3rd (Labor Day) ***

Purchases can be made in person or preordered online at:

<https://squareup.com/store/phi-sigma>

Purchases made online will not be shipped and must be picked up in person during regular store hours. Please bring your student ID when picking up an online order.

4. Four # 4521scantrons for lecture exams (big blue ones).
5. Composition notebook. These are the marble notebooks you can buy at most grocery stores or pharmacies (e.g., CVS or Walgreens). Obtain one before the first day of lab.

Grading Policy

Lecture: Your grade for the lecture will be based on three mid-term exams, an optional comprehensive final exam, and i-clicker questions. **Exams will cover material from both the lecture presentations and the textbook.** The final is optional. If you choose to take the final, your lowest exam score will be dropped. For i-clicker questions, you will receive 50% for answering all of the questions and additional points for correct answers. **You cannot makeup i-clicker questions.** There will be no extra credit opportunities.

Laboratory: Students will be evaluated through a combination of quizzes, lab reports, a lab notebook and a practical exams.

1. Quizzes will be given at the beginning of each lab session. If you are late for lab, you will receive a zero for that quiz. The lowest two quiz grades will be dropped; there are no make-up quizzes. Quizzes may include material from lecture and lab.
2. Two lab reports will be completed during the semester. Although you will be working in groups to complete the experiments, lab reports are to be written individually. **Students that submit lab reports with any evidence of collusion will be send to Student Conduct, no exceptions. If found guilty, both parties will receive a 0 on the assignment.**
3. Students must maintain a lab notebook that contains drawings, data, and notes taken during labs. Your lab instructor will request to see the notebook three times during the semester (dates will not be announced).
4. There will be two lab exams given in the format of a lab practical.

Your final grade for the course will be based on your combined performance in lecture and lab. The lecture component will constitute 70% of the total grade and lab will compose 30% of the final grade.

Lecture*:	Mid-Term Exam 1:	30%
	Mid-Term Exam 2:	30%
	Mid-Term Exam 3:	30%
	i-clicker questions:	10%
Laboratory*:	Quizzes (8)	15% (lowest 2 dropped)
	Lab Reports (2)	20%
	Oral Presentation	10% (Group Assignment)
	Lab Notebook	15% (three unannounced checks)
	Practicals (2)	40%

* Percentages reflect respective percentage of lecture and lab grades, not % of total grade

To calculate your final grade, multiply your final lecture grade by 0.7 and your final lab grade by 0.3 and add them together.

Grade Scale: A = 90–100; B = 80–89; C = 70–79; D = 60–69; F ≤ 59.

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I do not take attendance in lecture. However, students who attend class regularly almost always perform better on exams than those who do not. Attendance for lab is required. If you must miss a laboratory for a legitimate, documented reason, contact your instructor before that day and time to make alternate arrangements. If the instructor does not hear from you prior to the lab session, you will not be able to make up the lab. In the event of an emergency, the lab instructor must be notified within 24 hours.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>). The last day to drop this class is **2 November 2018**.

Make-up Exam Policy: The instructor must be notified prior to your missing an exam for a legitimate, documented reason. If notification is not given prior to the exam, you will not be able to make it up. **All make-up exams will be in essay format** and will be administered the week of 10 December 2018.

Grade Grievance Policy: I am always willing to discuss a question you may have about the grading of a particular answer on an exam given in lecture. However you must see me regarding a grading question within one week exam grade being posted on Blackboard; after that, no grades will be changed. If the dispute is regarding a laboratory grade, you must discuss it with your lab instructor first. If you and your lab instructor cannot solve the disagreement, you must contact the *laboratory coordinator* within one week of the quiz, assignment, or practical grade being made available to you. If after meeting with the laboratory coordinator, you do not feel your grievance was adequately addressed, you should contact the Associate Chair of the Department of Biology.

Conflict Resolution: If you are experiencing an issue in class, you should first come speak with me about it. Specifically for issues regarding lab, if after meeting with your lab instructor the issue is not resolved, you may consult the laboratory coordinator. If after you have spoken to either myself about lecture, or the lab coordinator about a dispute in lab, you feel the issue requires further attention, you may then consult the Associate Chair of the Department of Biology, Dr. Laura Mydlarz. To do this you need to first file a grievance at <https://www.uta.edu/php-lib/machform/view.php?id=3403>. You must file the online form and have all supporting documentation in order to have your issue heard. None of the listed personnel will discuss the issue with you until you have first consulted all of those preceding him/her.

Lab Safety Training: Students registered for this course must complete all required lab safety training prior to entering the lab and undertaking any activities. Once completed, Lab Safety Training is valid for the remainder of the same academic year (i.e., through the following August) and must be completed anew in subsequent years. There are no exceptions to this University policy. Failure to complete the required training will preclude participation in any lab activities, including those for which a grade is assigned.

Mandatory Online Safety Training:

1. Login to **Blackboard** at <https://elearn.uta.edu> with your NetID and password (what you use to access email). If you do not know your NetID or need to reset your password, visit <https://webapps.uta.edu/oit/selfservice/> .
2. Under **My Blackboard** tab, click **Lab Safety Training**.
3. Click **Welcome** from the left pane to start and follow the instructions.

For training specific questions, contact the Environmental Health and Safety office at 817-272-2185.

For technical assistance with the training, please contact the Office of Institutional Compliance at 817-272-5100 or email compliance@uta.edu

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD): www.uta.edu/disability or calling 817-272-3364.

Counseling and Psychological Services (CAPS): www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos. For information regarding Title IX, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

CHEATING IN ANY FORM WILL NOT BE TOLERATED. IF YOU ARE CAUGHT, YOU WILL NOT RECEIVE CREDIT FOR THAT EXAM OR ASSIGNMENT AND MAY BE DISMISSED FROM LECTURE OR LAB. ALL CASES OF PLAGIARISM OR OTHER CHEATING WILL BE REFERRED TO THE OFFICE OF STUDENT CONDUCT WITHOUT EXCEPTION.

Student Support Services: The University of Texas at Arlington has established a variety of programs to help students meet the challenges of college life. Support to students includes advising, counseling, mentoring, tutoring, supplemental instruction, and writing assistance. For a complete list of academic support services, visit the Academic Assistance resource page of the Office of Student Success Programs, www.uta.edu/uac/studentsuccess/academic-assistance. To help students address personal, academic and career concerns, individual counseling is also available. For more information, students are encouraged to contact Counseling Services www.counseling.uta.edu at (817) 272-3671 or visit a counselor in 216 Davis Hall.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

<http://www.uta.edu/police/EvacuationProcedures.pdf>

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at: <http://www.uta.edu/universitycollege/resources/index.php>

Lecture Schedule*

Week		Date	Subject	Relevant Chapters
Week 1	Week of Aug 20	Aug 23	Introduction/Syllabus/Why Plants	1
Week 2	Week of Aug 27	Aug 28	Molecules, Cells, Plant Cells, and Cell Cycle	2, 3
		Aug 30	Cells and Tissues of Plants	23
Week 3	Week of Sept 03	Sept 04	The Plant Body	22
		Sept 06	Roots	24
Week 4	Week of Sept 10	Sept 11	Shoots and Leaves	25
		Sept 13	Secondary Growth	26
Week 5	Week of Sept 17	Sept 18	Plant Hormones	27
		Sept 20	Plant Growth	28
Week 6	Week of Sept 24	Sept 25	Mid-Term	
		Sept 27	Movement of Substances Through Cells	4
Week 7	Week of Oct 01	Oct 02	Flow of Energy	5
		Oct 04	Respiration	6
Week 8	Week of Oct 08	Oct 09	Photosynthesis	7
		Oct 11	Plant Nutrition and Soils	29
Week 9	Week of Oct 15	Oct 16	Movement of Water and Solutes	30
		Oct 18	Mid-term	
Week 10	Week of Oct 22	Oct 23	Prokaryotes, Viruses, Fungi	13,14
		Oct 25	Algae and Heterotrophic Protists	15
Week 11	Week of Oct 29	Oct 30	Bryophytes	16
		Nov 01	Seedless Vascular Plants	17
Week 12	Week of Nov 05	Nov 06	Gymnosperms	18 GO VOTE!!!!
		Nov 08	Angiosperms	19
Week 13	Week of Nov 12	Nov 13	Angiosperms Evolution GUEST LECTURE	20
		Nov 15	Mid-term	
Week 14	Week of Nov 19	Nov 20		
		Nov 21	Thanksgiving No Class	
Week 15	Week of Nov 26	Nov 27	Systematics	12
		Nov 29	Plant Ecology	31* 32*
Week 16	Week of Dec 03	Dec 04	TBA	
FINALS		Dec 11	Cumulative Final	8:00 am

* Lecture schedule is tentative and subject to change.

Lab Schedule

Week	Start Date	Activity	Assignments Due*
1	27-Aug	Lab 1: Introduction; Plant Nutrition; Begin Fast Plant experiments	
2	3- Sep	<i>Labor Day! No Labs!</i>	
3	10-Sep	Lab 2: Plant Cells; Seedling Germination and Development; Vegetative Propagation	
4	17-Sep	Lab 3: Plant Tissues	
5	24-Sep	Lab 4: Vascular System; Roots and Shoots	
6	1-Oct	Lab 5: Secondary Growth	Germination Lab Report
7	8-Oct	MIDTERM PRACTICAL	
8	15-Oct	Lab 6: Cyanobacteria, Algae, & Lichens	
9	22-Oct	Lab 7: Seedless Plants	Fast Plant Lab Report
10	29-Oct	Lab 8: Seed Plants: Gymnosperms	Oral Presentations
11	5-Nov	Lab 9: Seed Plants: Angiosperms; Ecology	
12	12-Nov	FINAL PRACTICAL	

* Assignments are always due *BEFORE* the start of class. No late assignments will be accepted.