**Spring 2017 Syllabus**

**Course Number and Course Title:** Biology 3427: Plant Science

**Time and Place of Lecture:** TTh 11 a.m. – 12:20 p.m., Pickard Hall 110

**Time and Place of Lab**: M, T, W, Th 2 - 4:50 p.m., Life Sciences 140

**Instructors:**

Gretchen Gann

**Office Number:** Life Sciences 349

**Office Telephone Number:** 817-272-2639

**Email Address:** [ggann@uta.edu](mailto:gough@uta.edu)

**Faculty Profile:** http://www.uta.edu/profiles/Gretchen-Gann

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

**Office Hours:** M 3-4 pm, T/Th 1-2 pm, or by appointment

Corey Roelke

**Office number:** Life Science 464

**Email address:** [croelke@uta.edu](mailto:croelke@uta.edu)

**Office hours:** TBA

**Laboratory Coordinator:**

Rachel Wostl

**Office Number:** LS 236

**Office Hours**: T/W 2-3pm

[rlwostl@uta.edu](mailto:rlwostl@uta.edu)

**Laboratory Instructors (GTAs)**:

Thomas Firneno: [thomas.firneno@uta.edu](mailto:thomas.firneno@uta.edu)

Office hours: T 5-6:30, W 2-3:30, and by appointment ERB 446

Sarbjeet Niraula: sarbjeet.niraula@uta.edu

Office hours: T/Th 3:30pm - 5:00pm and by appointment LS 136

**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.

**Lecture Requirements**: Students will be evaluated by three lecture exams during the semester, a semi-comprehensive final exam and class participation via i>clicker questions. There will be no extra credit opportunities.

**Laboratory Requirements**: Students will be evaluated through a combination of quizzes, lab reports, a lab notebook and a final practical exam.

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, noted with asterisks in the lab schedule. Lab reports are to be written individually, although you will be working in groups to complete the experiments; additional instructions are included in the lab manual. Identical portions of lab reports will be handled as incidents of plagiarism following university policy.
3. Students must maintain a lab notebook that contains drawings, data, and notes taken during labs. The TA will request to see the notebook four times during the semester (dates will not be announced)
4. The final exam will be in the format of a lab practical and will include material from the entire semester. The final exam will be closed book.

**Required Textbooks and Other Course Materials:**

**1.** *Biology of Plants*, 7th or 8th Edition, by Raven et al., 2012, W.H. Freeman and Co., and the Plant Science Laboratory Manual (sold by Phi Sigma).

2. An i>clicker 1 or 2: 1498601634 by September 6th. These run from $20-$60 depending on where you buy one and if it is used or new. Really any i>clicker will 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 accepts cash or credit/debit cards. You can purchase your manual following days and times TBA via Blackboard.

4. Four #4521 scantrons for exams (the big blue ones).

**Lecture Schedule:**

**Date Subject Chapter in Text**

17 Jan Introduction, course overview 1

19 Jan Angiosperms 19

24 Jan Angiosperm Evolution 20

26 Jan The Plant body 22

31 Jan Plant Cells and Tissues 23

02 Feb Roots 24

07 Feb Shoots and Leaves, Review 25

09 Feb **Exam 1**

14 Feb End Shoots and Leaves, Start Secondary Growth 25,26

16 Feb Stem Secondary Growth 26

21 Feb Molecular Composition of Plant Cell & Cell Cycle 2,3

23 Feb Flow of Energy 5

28 Feb Respiration 6

02 Mar Photosynthesis 7

07 Mar Evolution/Systematics: Science of Diversity, Review 11/12

09 Mar **Exam 2**

14 Mar Spring Break – no class

16 Mar Spring Break – no class

21 Mar Prokaryotes, Viruses, Fungi 13, 14

23 Mar Protista 15

28 Mar Bryophytes 16

30 Mar Seedless Vascular Plants 17

04 Apr Gymnosperms, review 18

06 Apr **Exam 3**

11 Apr Continue Gymnosperms 18

13 Apr Plant Hormones 27

18 Apr Plant Growth 28

20 Apr Plant Nutrition and Soils 29

25 Apr Plant Ecology 31\* & 32\*

27 Apr Plant Ecology continued 31\* & 32\*

02 May Catch up / Speaker

04 May Course Wrap Up and Review

09 May **SEMI-CUMULATIVE FINAL EXAM**, 11:00am – 1:30pm

\*Chp. 31 & 32 are on the web at [www.whfreeman.com/raven](file:///C:\Users\ggann\Dropbox\Plant%20Science\www.whfreeman.com\raven)

**Lab Schedule:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Start Date** | **Activity** | **Assignments Due\*** |
| 1 | 23-Jan | Lab 1: Introduction; Plant Nutrition; Begin Fast Plant experiments |  |
| 2 | 30-Feb | Lab 2: Plant Cells; Seedling Germination and Development; Vegetative Propagation |  |
| 3 | 6-Feb | Lab 3: Plant Tissues |  |
| 4 | 13-Feb | Lab 4: Vascular System; Roots and Shoots |  |
| 5 | 20-Feb | Lab 5: Secondary Growth | Germination Lab Report |
| 6 | 27-Feb | **MIDTERM PRACTICAL** |  |
| 7 | 6-Mar | Lab 6: Cyanobacteria, Algae, & Lichens |  |
| 8 | 13-Mar | *Spring Break – No Labs!* | |
| 9 | 20-Mar | Lab 7: Seedless Plants | Fast Plant Lab Report |
| 10 | 27-Mar | Lab 8: Seed Plants: Gymnosperms | Oral Presentations |
| 11 | 3-Apr | Lab 9: Seed Plants: Angiosperms; Ecology | Plant Selfie/Identification Assignment |
| 12 | 10-Apr | **FINAL PRACTICAL** |  |

\*Assignments will be due the day the lab you are enrolled in occurs on.

**Important Dates:**

First day of class: January 17

First day of labs: January 23

Census date: February 1

Spring Break: March 13 - 18

Last day to drop a class with a “W”: March 31

Last day of class: May 5

Final Exam: Monday, May 9, 11am -1:30p

**Grading Policy**: Your lecture grade is 67% (2/3) of your total grade. Your lab grade is 33% (1/3) of your total grade.

**Lecture:**

1. I>clicker questions – is 10% of lecture grade. I-clicker questions are given during lecture class only and will start the week of February 1st. You will receive a minimum of 50% for simply answering all the questions and then will be given additional points for correct answers. Typically there will be 4-8 questions per class. Your lowest 2 i-clicker grades will be dropped. **You cannot makeup i>clicker questions.**
2. Exams- each exam is worth 20% of the lecture grade (the average of all 3 exams is 60% of your lecture grade). Each lecture exam is 40-50 multiple-choice questions.
3. Final exam- is 30% of lecture grade and is ~70 multiple-choice questions.

**Laboratory\*:** Quizzes (8 total): 15% (lowest 2 dropped)

Lab Reports (2 total) 20%

Oral Presentation: 10% (group assignment)

Lab Notebook: 10% (three unscheduled checks)

Plant Identification: 5%

Practicals (2 total): 40%

Lab Total 100%

\* Percent values are of the total lab grade. You can multiply your final lecture grade by 0.66 and your lab grade by 0.33 and add them together to get your complete course grade.

To calculate your grade:

* 1. Calculate lecture average by: I-clicker average (0.1) + lecture exam average (0.6) + final exam grade (0.3)
  2. Overall grade = Lab average (0.33) + Lecture average (0.67)

**Grading Scale:**  89.5-100 A; 79.5-89.4 B; 69.5-79.4 C; 59.5-69.4 D; <59.5 F

**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.

**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 **1 April 2016**.

**Make-up Exam Policy**: The instructor must be notified prior to your missing an exam for a legitimate, documented reason. If we have not heard from you 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 April 24th 2017.

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

**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](https://owa.uta.edu/owa/ggann@exchange.uta.edu/redir.aspx?SURL=U-Wm2yC-geqYrx7kG30AYVE_tFJSlKCDlethnNi1f4n-NFs1gaLSCGgAdAB0AHAAcwA6AC8ALwBlAGwAZQBhAHIAbgAuAHUAdABhAC4AZQBkAHUA&URL=https%3a%2f%2felearn.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*](mailto:compliance@uta.edu)

**Important University Policies:**

**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](http://www.uta.edu/disability) or calling 817-272-3364.

**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**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*](http://www.uta.edu/hr/eos/index.php)*.*

**Title IX Policy:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated.*For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](file:///C:\Users\ggann\Dropbox\Plant%20Science\jmhood@uta.edu).

**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 Available:** 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](http://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](http://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/Evacuation Procedures.pdf](http://www.uta.edu/police/Evacuation%20Procedures.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](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>

**The IDEAS Center (**2nd Floor of Central Library) offers **free** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email [IDEAS@uta.edu](mailto:IDEAS@uta.edu) or call (817) 272-6593.

**The English Writing Center (411LIBR)**: Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In ***Quick Hits*** sessions during all open hours Mon-Thurs. Register and make appointments online at [http://uta.mywconline.com](http://uta.mywconline.com/). Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information.

*This course outline is tentative and subject to change. – Gretchen Gann*