



## **SYLLABUS**

### **Hort 201 - Horticulture Science and Practices**

**David Wm. Reed - Instructor**

Horticulture Forest Science Building, room 408

Cell: 777-2750 Home: 690-0401

e-mail: [dwreed@tamu.edu](mailto:dwreed@tamu.edu)

Course Web Site: [hort201.tamu.edu](http://hort201.tamu.edu)

**OFFICE HOURS:** Setup one-on-one, either F2F or Zoom. I may set up a standing weekly Zoom meeting that you can login to if we need to talk. If so, the link will be posted on the course web site [hort201.tamu.edu](http://hort201.tamu.edu)

#### **COURSE DESCRIPTION:**

The course will cover the structure, growth and development of horticultural plants from a practical and scientific approach; environmental effects, basic principles of propagation, greenhouse and outdoor production, nutrition, pruning and chemical control of growth, pest control and branches of horticulture.

**PREREQUISITES:** Plant Biology or Botany preferred, but not required.

**COURSE DESIGNATION:** Science Core elective for all students; required for HORT major/minors.

#### **LEARNING OUTCOMES**

To recognize plant "architecture", both internal and external structure and form.

To understand of basic plant "function", especially photosynthesis, respiration and hormones.

To realize how plants can measure and interact with the environment interact.

To develop skills to "orchestrate" plant growth with hormones, pruning, nutrition, temperature, water and soil modification.

**REQUIRED TEXT:** *Horticulture - Science and Practices*, D.W. Reed, Pearson Custom Publ., Edina, MN. Available at the campus and some off campus bookstores. Must be brought to all lectures.

**OPTIONAL TEXT:** *The Biology of Horticulture*, J.E. Preece and P.E. Read, latest edition, John Wiley & Sons, Inc., NY. The text is optional. Available at the campus and some off campus bookstores.

**QUIZ FILE:** Several old exams are posted online for you to download. I strongly suggest you look at the old exams so you become familiar with the format and depth of questions.

**VIDEO TAPES and REMOTE DELIVERY:** All lecture will be Zoom recorded and posted online. Links are posted on the course website [hort201.tamu.edu](http://hort201.tamu.edu). Zoom lectures will not be live streamed.

#### **LATE ARRIVALS AND DEPARTURES:**

**Lecture:** I realize A&M is a very large campus. Reasonable late arrivals and early departures are ok. Enter/exit quietly and sit towards the back of the class. However, lecture will start and end on time.

**Exams:** Will start and end on time and will be delivered online. If you login late, you will have only the remaining time to take the exam. If something beyond your control happens, call my cell 979-777-2750 immediately. Make-up exams are granted only for University acceptable excuses.

**CELLULAR PHONES:** **It is not acceptable, appropriate, nor respectful to use your cell phone during class.** If your cell phone rings during class or if you answer a phone during class, you will be asked to turn it off, and if it becomes a distraction you may be asked to leave the classroom.

**ATTENDANCE:** I do not take roll, but please attend class or watch the lecture; a lot of learning occurs from hearing/watching/experiencing lecture.

**NOTIFICATIONS:** Official University notification of all matters is through your Howdy email. I will use only your Howdy email. Make sure you check your Howdy email, or its alias, regularly.

**GRADES AND GRADING POLICY:** (also see <http://student-rules.tamu.edu/rule10>):

**Grade Calculation**

- Exams: There will be 5 100-point exams, your lowest grade will be dropped. Your exam grade is based on a maximum total of 400 point
- Bonus Points: Will be added to the sum of your highest 4 exam grades.
  - Team Projects: Worth up to 8 bonus points (up to 4 points for artifact and 4 points for video).
  - Individual Student Reflective Essay on a Science topic or the Project: Worth up to 4 bonus points.
- Your numerical average will be the sum of your highest 4 exam grades plus bonus points, divided by 4, and rounded to the next whole number

**Letter Grade:** Your letter grade will be the letter equivalent of your numerical average based on the following 10-point scale.

**Grading Scale:** 10-point scale, A = 90-100, B = 80-89, C = 70-79, D = 60-69, F =< 59  
Note: The 12 bonus points can actually change your Grading Scale by 3 points, so A = 97-100, etc.

**Final Grade:** Your final grade will be this letter grade; there is no curve or outside/extra work for extra credit.

**Grades Posted:** On Canvas within 1 day for multiple choice exams, and within 3 days on the short answer questions, Team Projects and Reflective Essay.

**Exams Returned:** Exams are electronic and available for you to view on Canvas.

**GRADING SCHEMA**

<b>EXAMS – Multiple Choice and Core Competency questions*</b>	
100 points	Exam 1
100 points	Exam 2
100 points	Exam 3
100 points	Exam 4
100 points	Final Exam
<b>500 Points Total</b>	
<b>400 Points Max</b>	Drop lowest grade; exam grade is based on sum of highest 4 exam grades
<b>TEAM and INDIVIDUAL PROJECTS – Bonus Points (up to 12 points)</b>	
8 bonus points	Team Project Artifacts: 3D or Visual Communication Model (4 points) and Oral Communication Video (4 points)
4 bonus points	Reflective Essay: Individual Student Reflective Essay (4 points)

**HOW WILL EXAMS BE ADMINISTERED?**

- Exams will be taken in the classroom online on Canvas using a laptop computer or tablet. This applies whether you attend class face-to-face or watch the recorded video later. If access to a laptop or tablet is an issue, see me.
- You must login to the Zoom meeting and login to Canvas. You can have no other window open on your computer.
  - The Zoom link will be emailed to you and will be posted on the course web site [hort201.tamu.edu](http://hort201.tamu.edu)
  - Thus, exams will be proctored in the classroom and live online on the Zoom feed.
  - If you have an excused absence, you may be granted permission to take the exam remotely. This must be arranged with me ahead of time. You must have a computer with a camera and a reliable Wi-Fi connection.
- Exams will be given during the normal lecture period, and on the dates posted on the course web site.
  - The exam will be timed by Canvas. The exam will open exactly at the normal start of lecture time and close exactly 1 hr 15 min later. If you arrive for the exam late, you must have a justified reason why. If you miss this time period, then you miss the exam. If something beyond your control causes you to be late, call my cell immediately at 979-777-2750 to notify me of the issue

and we will discuss your situation. Note: forgetting you had an exam and over-sleeping are not valid reasons beyond your control.

- You can only miss the exam and take a make-up for a University acceptable excuse. And, I must be notified as per the timeline in Student Rules. See the section on Make-Up Exams later in the Syllabus.
- Technical reasons are not a University acceptable excuse. You to have a computer, tablet or electronic device with a camera. You cannot take the exam on a cell phone. If for any reason you lose internet connection, see me or call my cell immediately 979-777-2750 to notify me of the issue.
- If you are given permission to take the exams remotely, it will be closed book, taken alone with no communication with anyone, on the honor system, and proctored by Zoom. If you have a question during the exam, send a personal Chat to the Proctor.
- For students that have accommodations with **Student Disability Services (SDS)**, see me and we will make arrangements based on your Approved Accommodations.

### **MAKE-UP EXAMS:**

Read the Student Rules (<https://student-rules.tamu.edu/rule07/>) relative to excused absences and make-up exams. Make-up exams will be given only for acceptable University excuses as defined in Student Rules. As per Student Rules: *"The student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence"*, which requires some type of written and approved excuse. And, *"to be excused the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. In cases where advance notification is not feasible (e.g. accident, or emergency) the student must provide notification by the end of the second working day after the absence. This notification should include an explanation of why notice could not be sent prior to the class. However, it is strongly advised to talk to me directly (in person or a phone call) to inform me of the absence - Why? So, I can confirm the validity of the absence and explain your options.* If possible, the make-up exam will be tentatively scheduled at the time I verify the excused absence. **Arrangements for make-up exams must be done directly with me, either in person or a phone call. I do not discuss arranging make-up exams via email or texting, unless it is an extraordinary situation.** Student Rules require that the make-up is *"to be completed within 30 calendar days form the last day of the absence"*. However, the exact time allowed for the make-up depends on the nature of the excused absence. My guidelines are: The student is given the number of days to make-up the exam equal to the number of days of the excused absence, starting with the day of the exam. For example, if the student has an illness and an excused absence for 2 days (the day of the exam plus the next day), then the student is allowed 2 calendar (2) days, and the make-up exam must be taken by the end of the 3rd day. If the excused absence includes days before the exam such that lectures were missed, then see the instructor for a case-by-case decision to allow sufficient time to view the videos of the missed lectures. If the excused absence is for a planned event, such as sponsored activity, and no lectures are missed, then the student may take the exam before departure if feasible, a Zoom proctored exam may be administered at an arranged time on the day of the exam while on the trip. If lectures are missed, an appropriate amount of time will be allowed to view the video tapes of the lectures missed, plus study time - this is arranged on a case-by-case basis. Notification of missing an exam must be by the timeline stated above, but written documentation of the excused absence can be turned-in at the time of the make-up exam. If the make-up exam is taken after the exams have been returned in class, then a different, but comparable, make-up exam may be given. **Any exam missed without following the Student Rules will result in a grade of 0** (unless there are extraordinary extenuating circumstances, and in such cases, you must appeal directly to the instructor). If this is your first 0, then it will automatically be used as your drop grade. If you have already used your drop grade, then the 0 will be averaged as a grade. **If all this seems confusing, that is why I want you to call me, so I can verify your excuse and explain to you the make-up options.**

**Satisfying Core Objectives**  
**Student Learning Outcomes for Life and Physical Sciences**  
Visual, Oral and Written Communication and Teamwork

**Team Projects:**

Project 1: **Visual Communication** Model or Artifact (up to 4 points)

Project 2: **Oral Communication** Video (up to 4 points)

**Individual Project**

Project 3: **Written Communication** Reflective Essay (up to 4 points)

**Teams**

The class would be randomly divided into teams of 5-6. The team members must work together to complete the Visual and Oral Communication model or artifact and the video. The team members will be graded on participation. Team member will anonymously score each other: >50% to full effort receives all points, >0 and <50% effort receives half points, and no participation receives no points.

**Note:**

Each student can participate and complete any or all of the three Projects

Teams or individuals can submit a draft of the artifact, model or essay to the instructor for critique, then prepare the final draft or model for submission. Only one critique can be sought.

**Team Project 1: Visual Communication Model or Artifact**

**Complete either Option 1 or Option 2, but not both. Up to 4 point**

**Option 1:** Convert a 2-dimensional diagram into a 3-dimensional model or artifact

The plant anatomy and morphology lectures are based entirely on 2-dimensional drawings (pages 1-20). To demonstrate one's ability to visualize the structure in 3-dimension, the team will select any of the 2-dimensional diagrams in the text and create a 3-dimensional model or artifact. The model or artifact will be graded on scientific accuracy, clarity of representation and professionalism. Team members will be graded on participation.

Submission: 3-D model or artifact of an anatomical structure – Bring the model to me in lecture or to my office HFSB 408. You must also email me images of the model. You will need to shoot a couple of angles to get a good view of the 3-D model. The artifact must be labelled. The model must demonstrate the three dimensions of width, length and height.

**Option 2:** Convert Narrative information into a visual artifact that fits a visual learning style.

The individual team member will take any topic from throughout the text that is presented as narrative and create a visual method of presentation. The artifact could be a comparison and contrast matrix (example p. 18, 29), a diagram or PowerPoint image/slide (example page 34, 62), a virtual model, a drawing, labelled visual image, etc. The artifact will be graded on scientific accuracy, clarity of representation, and professionalism.

Submission: Visual or other Artifact of any topic – it could be submitted as an electronic file of a comparison and contrast matrix or table, a diagram, a graph, a pic file, a virtual image, a PDF, or a PowerPoint image/slide. The artifact must be in a file format that can be read on a standard computer with standard software. The artifact must be accurately labeled. The artifact can be emailed directly to [dwreed@tamu.edu](mailto:dwreed@tamu.edu), or delivered to me directly in lecture or my office HFSB 408 on a USB drive. DO NOT submit the artifact file to Canvas.

**Team Project 2: Oral Communication Video. Up to 4 points**

The team will prepare a short video, up to 3 minutes, to present and explain their visual artifact from Option 1 or 2. A video taken with cell phones is sufficient. Basically, consider the video as a mini-

lecture to a class. Every team member must be part of the oral presentation. Team members will be graded on participation.

Submission: The video file can be posted to You Tube and you email me the link, or it may be delivered to me during lecture or to my office on a USB drive. Virtually, all videos are too large to email as an attachment. You can come air drop to me in class. DO NOT submit the video to Canvas.

### **Individual Project 3. Written Communication Individual Student Reflective Essay.**

Up to 4 bonus points

Each student will write a short reflective essay (200-500 words, 1-page typed max). The reflective essay can be on any science topic covered in the class or on the student's extra credit project described above. The reflective essay should address how the learning experience has yielded a greater and more in depth understanding of the scientific principle or artifact produced by the project. How have you changed, developed or grown from the experience to come to a better understanding of science. The essay will be scored with a standard rubric for grammar, spelling, sentence structure, etc., scientific accuracy and clarity of the explanation. The essays will be worth up to 4 points. The scale will be 4 points for an acceptable, conscientious and adequate essay that expresses a greater depth of understanding; 2 points if an essay is submitted, but clearly needs improvement or appears to have 'little thought' (e.g. at least 2 points for effort), or 0 points if an essay is not submitted or deemed insufficient. As with other projects, the student can communicate with the instructor about a draft of the essay.

Submission: The essay is emailed to me as a document file.

### **Deadline for All Projects**

The final due date for all projects will shortly after the 3<sup>rd</sup> Exam. The exact day and time is TBA. This will be a hard deadline. No project will be accepted late, not even a couple minutes.

But, projects can be completed and submitted anytime. In fact, it would be advisable to complete and submit the projects well before the deadline.

DO NOT wait until the last minute in case you have computer or Wi-Fi problems.

DO NOT submit any projects to Canvas.

Pay particular attention as to how the project model or artifact will be submitted to me.

All Projects do not have to be submitted together. .

**Student Comments:** I am extremely receptive to student comments, both positive and negative. Leave me a note on the podium if you want to be anonymous, or e-mail me at [dwreed@tamu.edu](mailto:dwreed@tamu.edu). If you are worried about revealing your identity, get a friend to send me your quote. But ,trust me – I believe in your freedom of speech and there is nothing that you can say that will offend me, and absolutely I would never hold anything you say against you. If I did that, then I should not be a teacher

### **Academic Integrity Statement and Policy**

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” ([Section 20.1.2.3, Student Rule 20](#)). You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at [aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).

### **Americans with Disabilities Act (ADA) Policy**

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact the Disability Resources office on your campus (resources listed below) Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible. Disability Resources is located in the Student Services Building or at (979) 845-1637 or visit [disability.tamu.edu](http://disability.tamu.edu).

### **Title IX and Statement on Limits to Confidentiality**

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University’s goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

### **Statement on Mental Health and Wellness**

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student’s academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing available resources and services on your campus

Students who need someone to talk to can contact Counseling & Psychological Services (CAPS) or call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).

## LECTURE OUTLINE AND EXAM TIMING

Number Lectures	<i>Horticulture: Science and Practices, Reed</i>	<i>The Biology of Horticulture, Preece and Read</i>	Topic
<b>PART I - BASICS OF HORTICULTURE</b>			
1	pages 1-2	Chapter 1	<b>Introduction and Definition of Horticulture</b>
3	pages 3-20	Chapter 3	<b>Plant Anatomy, Morphology &amp; Development</b> Vegetative & Reproductive
3	pages 21-29	Chapter 5	<b>Plant Metabolism and Functioning</b> Photosynthesis & Respiration
<b>1st EXAM</b>			
<b>PART II - ENVIRONMENT IN HORTICULTURE</b>			
2	pages 30-32	Chapter 11 & 12	<b>Hormones and Growth Regulators</b> Manipulating Plant Growth
2	pages 33-49	Chapter 6	<b>Temperature</b> Cardinal Temperatures, Chilling & Freezing Damage & Prevention, Stratification, Vernalization, Dormancy
2	pages 50-59	Chapter 5	<b>Light</b> Effects of Quantity & Quality, Light Measurement, Photoperiodism, Light Acclimatization
<b>2nd EXAM</b>			
2	pages 60-66	Chapter 7	<b>Water</b> Humidity, Precipitation, Soil Water, Irrigation Systems, Absorption Translocation, and Transpiration
2	pages 67-73	Chapter 8 & 10	<b>Soil &amp; Growing Medium</b> Types, Components, Chemical & Physical Properties
2	pages 74-80	Chapter 9	<b>Nutrition and Fertilizers</b> Essential Elements, Functions, Deficiency Symptoms, Fertilizer Sources
<b>3rd EXAM</b>			
<b>PART III- HORTICULTURAL PRINCIPLES AND PRACTICES</b>			
2-3	pages 81-93	Chapter 4 & 14	<b>Propagation</b> Sexual by Seeds; Asexual by Cuttings, Layering, and Grafting; Chimeras
1	pages 94-96	Chapter 13	<b>Growth Control</b> Pruning Methods and Terminology, Chemical Pruning, Timing of Pruning
1	pages 97-100	Chapter 16	<b>Pest and Pest Control</b> Pest Control, IPM, Biological Control, Pest Types - Insects, Mites, Disease Causing Microbes, Weeds
<b>4th EXAM</b>			
<b>FINAL EXAM - COMPREHENSIVE</b>			