ENV. HORT. PHYSIOLOGY  
HORT 3324 Section 600  
Fall 2020

Instructor: Dr. Michael Maurer  
E-mail: via D2L  
Telephone: (936) 468-1729  
Office: AG 119  
Office Hours: MW 9:00 to 10:00am, 11:00 to 12:00am and TR 9:30 to 11:30 pm or by appointment.

Department: Agriculture  
Class meeting time and place: MWF 8:00 to 8:50 am, Agriculture Bldg. Rm. 118

Course Description:
Presents fundamental concepts underlying the science of horticultural crop production and management, including abiotic and biotic environmental factors relative to their effects on plant physiology.

Course Purpose:
Students successfully completing this course will learn the basic aspects of environmental horticulture physiology. Topics of discovery include plant water relations (irrigation), plant growth and development and environmental stresses on plant growth and management.

Text:  

Expected Learning Outcomes:
Upon completion of this course, the student will be able to:

A. Understand basic plant physiology related to horticulture crops.  
B. Understand environmental stresses influence on plant growth and development.  
C. Comprehend the interaction of abiotic and biotic environments as they influence the physiology of horticultural plants.

Methods for Assessing the Expected Learning Outcomes:
The expected learning outcomes for the course will be assessed through several of the following methods: exams, application exercises, problem sets, class discussion, writing assignments and presentations.

COVID-19 MASK POLICY
Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to
the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions.


Course Assignments and Grading Procedures:

Exam I  20%
Exam II  20%
Exam III 20%
Final 20%
Written Assignments 20%
Total 100%

Point Distribution:

Grades will be assigned according to the following scale:

A = 90 - 100%
B = 80 - 89.9%
C = 70 - 79.9%
D = 60 - 69.9%
F < 59.9%

Course Grades Policy (5.5)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. Please read the complete policy at http://www.sfasu.edu/policies/5.5_course-grades.pdf

Student Code of Conduct: Policy 10.4

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program. Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This policy applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare: Early Alert Program at SFA. Information regarding the iCare program is
Responsible Use of Technology
It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

Students are expected to assist in maintaining a classroom environment which is conducive to learning. In order to assure that all students have an opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from using cellular phones or beepers, eating in class, making offensive remarks, reading newspapers, sleeping or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in, minimally, a request to leave the classroom.

Attendance Policy:
Class Attendance
Attendance is the best way to succeed in this course. Regular and punctual attendance is expected for all classes, and other activities for which a student is registered. If a student has excessive absences, the instructor reserves the right not to give individual tutoring, special consideration regarding make-up work, or other help the student needs because of missing class. Attendance will also play a crucial role in decisions concerning borderline final grades.

No makeup examinations will be given. A student who misses an examination because of a medical reason must provide documented evidence of medical incapacitation. Other reasons for missing an examination must be discussed as soon as possible before the day of the examination. Each case will be considered on an individual basis. The overall course grade for a student who misses an examination with a valid reason will be based on that student’s remaining course work. A student who misses an examination without a valid excuse will receive a grade of zero on that examination.

Excused Absences
Students may be excused from attendance for certain reasons, among these are absences related to health, family emergencies, and student participation in certain university-sponsored events. However, students are responsible for notifying their instructors in advance whenever possible for excusable absences.

Students are responsible for providing timely documentation satisfactory to the instructor for each absence. Students with acceptable excuses may be permitted to make up work for absences to a maximum of three weeks of a semester when
the nature of the work missed permits. Whether excused or unexcused, a
student is still responsible for all course content and assignments.

Student Academic Dishonesty Policy (4.1)
Academic integrity is a responsibility of all university faculty and students. Faculty
members promote academic integrity in multiple ways including instruction on
the components of academic honesty, as well as abiding by university policy on
penalties for cheating and plagiarism. Definition of Academic Dishonesty:
Academic dishonesty includes both cheating and plagiarism. Cheating includes
but is not limited to (1) using or attempting to use unauthorized materials to aid in
achieving a better grade on a component of a class; (2) the falsification or
invention of any information, including citations, on an assigned exercise; and/or
(3) helping or attempting to help another in an act of cheating or plagiarism.
Plagiarism is presenting the words or ideas of another person as if they were
your own. Examples of plagiarism are (1) submitting an assignment as if it were
one's own work when, in fact, it is at least partly the work of another; (2)
submitting a work that has been purchased or otherwise obtained from an
Internet source or another source; and (3) incorporating the words or ideas of an
author into one's paper without giving the author due credit. Please read the
complete policy at
http://www.sfasu.edu/policies/student_academic_dishonesty.pdf

Integrity and professionalism are expected at this level of education. Unauthorized collaboration on assignments or projects, as well as dishonesty on
exams and quizzes will not be tolerated. Suspected cases of cheating or
plagiarism in class and labs as well as grade disputes and appeals will be
handled according to the academic regulations of the University. If it is
determined cheating occurred, the student will be dismissed and fail the
course

Academic Accommodation for Students with Disabilities Policy (6.1)
To obtain disability related accommodations, alternate formats and/or auxiliary
aids, students with disabilities must contact the Office of Disability Services
(ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as
early as possible in the semester. Once verified, ODS will notify the course
instructor and outline the accommodation and/or auxiliary aids to be provided.
Failure to request services in a timely manner may delay your accommodations.
For additional information, go to http://www.sfasu.edu/disabilityservices/
Tentative Lecture Schedule

ENVIRONMENTAL HORTICULTURE PHYSIOLOGY
HRT 323, Section 001
Topic outline and Exam dates
(Exam dates or topics may change with prior notification)

Topic (Suggested reading/chapter in textbook).

Plant cell and anatomy review: Chp. 1 (5%)
Transportation and translocation of water and solutes: Chps. 2, 3, 4 and 5 (30%)
  Water functions, properties, potential.
  Water movement in plants
  Drought stress
  Salt stress
  Water quality – reclaimed wastewater
  Irrigation requirements and scheduling
Biochemistry and Metabolism: Chps. 6, 7, 8, 9, and 10 (30%)
  Photomorphogenesis and photoperiodism
  Carbohydrate partitioning
  Phloem transport
  CO₂ enrichment
  Sun vs. shade environments
  Radiation stress
Growth and Development: Chps 14, 15, 16, 17, 18, and 19 (35%)
  Growth and development
  Phytochrome and light control
  Blue-Light Responses
  Flowering
  Stress Physiology

Exam Schedule:

Exam I   Friday, October 23, 2020
Exam II  Friday, November 6, 2020
Exam III Friday, November 20, 2020
Final     Friday December 11, 2020

Written Assignment
  Report I – Cellular component – Friday October 23, 2020
  Report II – Amino acid - Friday October 30, 2020
  Report III – Enzyme - Friday November 6, 2020
  Report IV – Metabolite - Friday November 13, 2020
  Report V – Defense metabolite - Friday November 20, 2020
Program Learning Outcomes:
1. The student will demonstrate entry level skills needed for success in horticulture, agronomy and other related fields in the area of a) plant physiology and anatomy, b) practical experience in plant management systems, c) basic knowledge of plant genetics and reproduction, d) identification and knowledge of crops and e) management of soils and soilless media.
2. The student will demonstrate quantitative competence related to horticulture and agronomy.
3. The student will exhibit problem solving skills based on quantitative and analytical reasoning.
4. The student will demonstrate effective communication skills
5. The student will exhibit leadership and other interpersonal skills needed for career placement and advancement.
Program learning outcome #1 is addressed in this class.

<table>
<thead>
<tr>
<th>Course</th>
<th>PLO 1 Plant Science</th>
<th>PLO 2 Quantitative</th>
<th>PLO 3 Problem Solving</th>
<th>PLO 4 Communications</th>
<th>PLO 5 Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRT 323</td>
<td>A</td>
<td>I</td>
<td>A</td>
<td>I</td>
<td>B</td>
</tr>
</tbody>
</table>

B-Basic  I-Intermediate  A-Advanced  M-Mastery