

PLS 3004C: Principles of Plant Science

Spring 2017

3 Credits

McCarty B 3096

MWF 6 (12:50-1:40)

Instructor: Erin Alvarez, M.S.
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Office Hours: T 12:30-2:30, W 10-12, by appt
3121 McCarty Hall

Course Description: Introduction to the principles and practices of plant production systems. An overview of plant evolution, anatomy, physiology, improvement, pest, water and nutrient management as applied to a variety of plant production systems.

Justification: The purpose of this course is to prepare students with specific competencies they need for a fundamental understanding of plant biology and production. The course is designed to provide the student with basic knowledge of plant anatomy, genetics, physiology, soils, plant diseases and production practices of various crops. Upon completion of this course, the student will possess an understanding of plant production systems and the impacts they have on the ecosystems they occupy

Course Objectives: Upon successful completion of this course the student should be able to:

- Apply the theoretical knowledge covered in the course to production situations and make scientifically sound recommendations.
- Understand management practices (e.g. soil, water, nutrients, rotations, crop and variety selection, overall plant production system) and interpret how they affect plant production.
- Formulate hypotheses about the processes that impact plant growth and develop and propose experiments that could be developed to test hypotheses based on the scientific method.
- Communicate in both oral and written forms about key scientific concepts related to plant anatomy, plant genetics, plant physiology, soils and crop production practices to different audiences to inform them about issues of concern related to agricultural production.
- Assess future agricultural production needs and opportunities to identify potential career paths in the agricultural sciences.

Course Schedule*:

Week : Dates	Topic	Major Dates
1 : 1/4, 6	Introduction; History, Trends, Issues	
2 : 1/9, 11, 13	Terrestrial Ecosystems; Human Uses of Plants	
3 : 1/16, 18, 20	Climate and Soils	1/16: Holiday, 1/20: Class Online
4 : 1/23, 25, 27	Plant Structure, Growth, and Development	
5 : 1/30, 2/1, 3	Plant Metabolism and Physiology	
6 : 2/6, 8, 10	Genetics and Propagation	Meet at UF Farm TBD
7 : 2/13, 15, 17	Plant Science Applications: Research	Project 1 Due 2/17
8 : 2/20, 22, 24	Classification and Naming	Meet at Wilmot Gardens 2/22
9 : 2/27, 3/1, 3	Water Relations and Nutrition	Final Project Proposal Due 3/3
10 : 3/6-10	SPRING BREAK!	
11 : 3/13, 15, 17	Soil, Water and Fertility Management	
12 : 3/20,22,24	Integrated Pest Management	
13 : 3/27, 29, 31	Plant Science Applications: Industry Case Studies	
14: 4/3, 5, 7	Production, Harvest, Postharvest, Marketing	Final Project Due 4/7
15: 4/10, 12, 14	Final Presentations and Peer Evaluation	
16: 4/17, 19	Final Presentations and Peer Evaluation	Topic Evaluations Due 4/19

*Classes will be held in MCCB 3096 on Wednesday and Friday, Monday will be reserved for Garden Days which will be held at the Fifield Gardens located just *north* of Fifield Hall on campus:

<http://campusmap.ufl.edu/#/index/0717>

Supplemental Text (for students with limited or no plant science background):

Plant Science- Growth, Development and Utilization of Cultivated Plants, McMahon, M.J., Kofranek, A.M., and Rubatzky, V.E. eds. 5th Edition. Pearson Higher Ed Publishing: <http://www.mypearsonstore.com/bookstore/plant-science-growth-development-and-utilization-of-9780135014073> Available used and new from several sources, including the UF library. *This text is recommended for students without prior Botany or Plant Science coursework.*

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Grading:

Assignments:	70 %
Projects:	25 %
Participation:	5 %

Grading Scale:

A	94-100%	C+	77-79.9
A-	90-93.9	C	70-76.9
B+	87-89.9	D+	67-69.9
B	80-86.9	D	60-66.9
		E	<60

Grades and Grade Points

For information on current UF policies for assigning grade points, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Assignments: Assignments will be given regularly in class and for each module, and will be graded and returned within 48 hours of submission where possible. In cases where grading will be delayed, the instructor will notify you at the due date. Due dates for major projects and assignments are listed on course website calendar. *In-class assignments missed due to unexcused absences cannot be made up. Missing classes frequently will affect your grade.*

There is a 48-hour grace period for all due dates (except in-class assignments). Submissions will not be accepted after this grace period.

Participation: Your active participation is crucial to your success and the quality of your experience in this course, and is impossible when you are not actively engaged. Preparation and completion of assigned material outside of class time will be necessary for meaningful participation in class.

Service Hours: To supplement course content and apply concepts learned in class, every student will complete a total of five (5) service hours related to the Plant Sciences at an approved location before the end of the semester, and complete the Service Hours Evaluation Assignment. Service hours should ideally be volunteer hours completed at one of the UF gardens or farms, but additional locations are available. Concurrent internships and other forms of employment in the plant sciences or related field may be counted as well. See Canvas or contact instructor for more information.

Up to six (6) additional hours may be completed by any student to substitute for missing up to two (2) 1-point assignments. Three hours will count for a single 1-point assignment. Substitutions must include a written or video evaluation.

Projects:

1. Individual Plant Science Profile
2. Group Plant Challenge Project

Deadlines listed on course calendar-project details will be given in class and posted to Canvas.

Course Evaluation Process

Please take the time to evaluate this course and me as your instructor! I really do use your feedback, and the college uses it to determine all sorts of things. I'll send out a mid-semester evaluation to adjust the course as necessary, but the final end-of-semester evaluation from UF is very important.

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at

<https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

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Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities

Academic Honesty

In 1995 the UF student body enacted an [honor code](#) and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."**

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office. (Source: 2011-2012 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/

Counseling Services

Groups and Workshops

Outreach and Consultation

Self-Help Library

Training Programs

Community Provider Database

Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/