Fall 2025 PLS 3004C: Principles of Plant Science

Instructor: Dr. Kara Riggs
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Phone: 352-273-2215
Email: kcasy@ufl.edu
Office Hours*: Tuesdays from 10:30am-12:30pm and by appointment via Zoom (email kcasy@ufl.edu for meeting requests)

*Zoom office hour links will be on Canvas in the "Office Hours" page.

Teaching Assistants:
Shatabdi Proma (shatabdi.proma@ufl.edu)
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Course Location and Time: Online–Canvas (https://elearning.ufl.edu) Asynchronous lectures will be posted online in PowerPoint format with a voiceover recording along with Media Site links. Students may opt to download and run the PowerPoint presentations on their computer to view, or they may watch the Media Site video links also provided in Canvas.

Course Website: The E-Learning system Canvas (https://elearning.ufl.edu) is the online source for all the learning resources. Course announcements regarding general course information will be posted at Canvas throughout the term. Students need to login with GatorLink username and password for access. If you do not have a GatorLink ID go to http://gatorlink.ufl.edu or to the Help Desk: 352-392-HELP for assistance.

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. Course prerequisite: BOT 2010C or BSC 2010.

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:

- Create and evaluate hypotheses about processes that impact plant growth and physiology.
- Analyze research results and use this information to draw conclusions about plant community dynamics and agricultural production based on the scientific method.
- Identify and discuss key scientific concepts, including plant anatomy and physiology, genetics, soil health and chemistry, integrated pest management, and crop production practices.
- Assess future agricultural production needs in relation to current challenges in agricultural and plant sciences.
- Articulate differences between various crop production systems, pest and nutrient management strategies.

Course Schedule:

Module	Lecture Topics	Assignments	Due
1	1. History, Experimentation, and Food	Reading Quiz 1	8/29 at 11:59pm ET
	2. Plant Classification and Crops	Reading Quiz 2	8/29 at 11:59pm ET
	3. Ecosystems	Reading Quiz 3	9/5 at 11:59pm ET
	4. Climate and Soils	Reading Quiz 4	9/12 at 11:59pm ET

			Exam 1	9/15 at 11:59pm ET
2	5. Plant Structure		Reading Quiz 5	9/19 at 11:59pm ET
	6. Plant Growth and Development		Reading Quiz 6	9/19 at 11:59pm ET
			Project 1	9/22 at 11:59pm ET
	7. Plant Chemistry and Metabolism		Reading Quiz 7	9/26 at 11:59pm ET
	8. Genetics and Propagation		Reading Quiz 8	10/3 at 11:59pm ET
			Exam 2	10/6 at 11:59pm ET
3	9. Carbon Cycle and Light Energy		Reading Quiz 9	10/10 at 11:59pm ET
	10. Photosynthesis and Respiration		Reading Quiz 10	10/16 at 11:59 pm ET
	11. Plant Water Relations		Reading Quiz 11	10/16 at 11:59 pm ET
	12. Plant Nutrition		Reading Quiz 12	10/24 at 11:59 pm ET
			Exam 3	10/27 at 11:59pm ET
4	13. Nitrogen Fixation		Reading Quiz 13	10/31 at 11:59 pm ET
	14. Soil and Water Management		Reading Quiz 14	10/31 at 11:59 pm ET
	15. Integrated Pest Management (IPM)		Reading Quiz 15	11/7 at 11:59 pm ET
			Project 2	11/17 at 11:59 pm ET
			Final Exam	12/8 at 11:59pm ET

NOTE: The instructor reserves the right to change any/all information contained in this and other materials in this course.

Required Text*:
McMahon. (2020). *Plant science : growth, development, and utilization of cultivated plants* (Sixth edition.). Pearson Education, Inc.
*Available used and new from several sources, including the UF library.

Reading Schedule:

Lesson	Reading Quiz	Textbook Chapter	Topics	Textbook Pages
Lesson 1	1	Chapter 1	1. History, Experimentation, and Food	2-17
Lesson 2	2	Chapter 10	2. Plant Classification and Crops	210-236
Lesson 3	3	Chapter 2	3. Ecosystems	19-34
Lesson 4	4	Chapter 4	4. Climate and Soils	49-67
Lesson 5	5	Chapter 6	5. Plant Structure	86-117
Lesson 6	6	Chapter 7	6. Plant Growth and Development	119-153
Lesson 7	7	Chapter 8	7. Plant Chemistry and Metabolism	156-167
Lesson 8	8	Chapter 9	8. Genetics and Propagation	169-208
Lesson 9	9	Chapter 11	9. Carbon Cycle and Light Energy	239-248
Lesson 10	10	Chapter 11	10. Photosynthesis and Respiration	248-255
Lesson 11	11	Chapter 12	11. Plant Water Relations	257-266
Lesson 12	12	Chapter 13	12. Plant Nutrition	268-270, 275-280
Lesson 13	13	Chapter 13	13. Nitrogen Fixation	271-274

Lesson 14	14	Chapter 14	14. Soil and Water Management	284-311
Lesson 15	15	Chapter 15	15. Integrated Pest Management (IPM)	314-360

Required Equipment:
Honorlock: You'll be using Honorlock proctoring service for exams.
> To use Honorlock, you are **required** to have:
>> a. Webcam
>> b. Headset/speakers
>> c. Microphone

Evaluation of Grades:

Requirement	Points each	Total Points
Reading Quizzes (15)	10	150
Projects (2)	75	150
Exams (3)	100	300
Final Exam (Cumulative)	100	100
Total Points		**700**

Grading Scale:
Final course grades will be on a percentage basis of total points:

A =	93-100%	C =	73-76.9
A- =	90-92.9	C- =	70-72.9
B+ =	87-89.9	D+ =	67-69.9
B =	83-86.9	D =	63-66.9
B- =	80-82.9	D- =	60-62.9
C+ =	77-79.9	E =	<60
		I =	Incomplete

Online Course Evaluation Process: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Proctored Exams: To ensure the academic integrity of the degrees awarded by the University of Florida, this course proctors the midterm and final exams. UF Online students are proctored through Honorlock. For details on how this works, visit the Proctored Exams Student Guide. In order to use this service, you MUST have a webcam, headset or working speakers, a microphone, and Google Chrome browser. Follow these steps for a trouble-free exam:
- Test your equipment well before your exam.
  - Make certain that your webcam and microphone function properly
  - Go to the Practice Quiz
  - You are strongly urged to take the extra step to connect to a live person
  - Test your equipment again the day before your exam
- Download and install Google Chrome on your computer
  - Chrome is the only supported browser for Honorlock exams
- Use a wired connection
  - **This is the number one cause of problems with online exams!**
  - The extra load of the proctoring software can cause even the best wireless connection to fail—don't take that chance!

- Find a quiet and private location
    o You will not be able to take your exam in a coffee house or other public location
- If you have not followed the steps listed above, any request for a makeup exam will not be granted.

Syllabus Changes: This syllabus is subject to change. Any changes will be announced well in advance of deadlines.

Academic Honesty: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following 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.*" You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment*."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/

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.

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. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

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

Getting Help: For issues with technical difficulties for e-Learning in Canvas, please contact the UF Help Desk at:
- Learning-support@ufl.edu
- (352) 392-HELP -select option 2
- https://lss.at.ufl.edu/help.shtml

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor or TA within 24 hours of the technical difficulty if you wish to request a make-up.

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,*
  http://www.counseling.ufl.edu/cwc/
    Counseling Services
    Groups and Workshops
    Outreach and Consultation

Self-Help Library
Wellness Coaching
- *Career Resource Center*, First Floor JWRU, 392-1601, www.crc.ufl.edu/next-level
- Student Complaints:
  - o Residential Courses: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf
  - o Online Courses: http://distance.ufl.edu/student-complaints

Harassment: UF provides an educational and working environment that is free from sex discrimination and sexual harassment for its students, staff, and faculty. http://www.hr.ufl.edu/eeo/sexharassment.htm

Disruptive Behavior: Faculty, students, administrative and professional staff members, and other employees (hereinafter referred to as 'member(s)' of the university), who intentionally act to impair, interfere with, or obstruct the mission, purposes, order, operations, processes, and functions of the university shall be subject to appropriate disciplinary action by university authorities for misconduct, as set forth in the applicable rules of the Board of Regents and the university and state law governing such actions. Be advised that you can and will be dismissed from class if you engage in disruptive behavior. For more information: http://regulations.ufl.edu/wp-content/uploads/2012/09/1008.pdf

Twelve-Day Rule: Students who participate in official athletic or scholastic extracurricular activities are permitted twelve (12) scholastic day absences per semester without penalty. In any case, it is the student's responsibility to maintain satisfactory academic performance and attendance.