

PLP3230: SURVEY OF PLANT PATHOGENS (3 CREDITS)

Course description: PLP3230 is an intermediate undergraduate course providing an introduction to the main groups of pathogens that are the cause plant disease, how they are spread and affect plants, and how they are identified and managed. The course also includes specific examples of how plant pathogens have changed the course of human history and culture.

Course prerequisites: BOT 2010 or BSC 2010

Knowledge prerequisites: This is an introductory course in identification and characterization of the major group of plant pathogens, the diseases they cause, their lifestyles and interactions with plants and the agricultural strategies used to prevent or manage them. To be successful students should have a general knowledge of biology/botany/zoology.

Student Learning Outcomes – After successful completion of this course, students will be able to:

- 1) Recognize the history of their discovery of organisms associated with plant diseases.
- 2) Differentiate plant pathogens by phylogeny, morphology and genetics
- 3) Compare life styles of plant pathogens
- 4) Distinguish plant pathogens based on disease symptoms and hosts
- 5) Summarize major emerging plant pathogens in crop systems and evaluate examples of recent epidemics
- 6) Research and examine about plant pathogens cause disease and spread
- 7) Recommend strategies to manage plant pathogens
- 8) Explain the importance of plant pathogens to modern agriculture

LECTURES

Online course: Each week there is a block of content available with specific due dates.

Instructor: Dr. Liliana Cano

Webpage: Canvas course link

Contact Information:

- Dr. Liliana Cano
 - **Email (the most efficient):** Use the Canvas e-mail in priority. (If you do not have access to e-learning platform and if emergency, use lmcano@ufl.edu).
 - **Phone:** 772-577-7350 (please leave a message).
 - **Office hours:** online conferencing via skype every Friday 11am-12pm (or by request)
- TAs: None.

TEXTBOOKS

Required Reading

Gail L. Schumann and Cleora J. D'Arcy. 2010. *Essential Plant Pathology. Second Edition.* APS Press, American Phytopathological Society, St Paul, MN. ISBN: 978-0-89054-381-8

A new or used version of the book can also be purchased through Amazon.com (<http://www.amazon.com>) for \$44-75

Recommended Reading

Gail L. Schumann and Cleora J. D'Arcy. 2012. *Hungry Planet.* APS Press, American Phytopathological Society, St Paul, MN. ISBN: 978-0-89054-399-3

EVALUATION OF LEARNING

Grading

Assignment	% of grade	Points
Quiz/Discussion/Essay	70	1785
First Exam	10	250
Mid-Term Exam	10	250
Final Exam	10	250

Breakdown of Quiz/Discussion/Essay Point values:

18 Quiz	50 points X 18	= 900
16 Discussion	50 points X 16	= 800
1 Essay (50 points)	85 points X 1	= 85

Most weeks will have a discussion topic assignment that will be completed by students and then posted to the discussion section of the course website for credit. Do not read posts made by other student until after you have already completed

and submitted your own assignment. Each submitted assignment should consist of 500 words or less and must address all parts of the assignment. Each student will also be expected to post a reply to at least two other students' posts in order to receive credit.

Please note that points will NOT be assigned separately for discussion comments and discussion posts. Students will either receive all potential points for making an original post AND posting two comments, or they will receive nothing for either skipping any part of the assignment. Poor quality submissions may receive partial credit.

GRADING SCALE

Scale	Grade	Points	Grade Point
93.5-100%	A	376-400	4.0
89.5-93.49%	A-	357-372	3.67
85.5-89.49%	B+	341-356	3.33
83.5-85.49%	B	329-340	3.0
79.5-82.49%	B-	317-328	2.67
75.5-79.49%	C+	301-316	2.33
72.5-75.49%	C	289-300	2.0
69.5-72.48%	C-	277-288	1.67
65.5-69.49%	D+	261-276	1.33
62.5-65.49%	D	249-260	1.0
59.5-62.49%	D-	237-248	0.67
<59.49%	E	≤236	0.0

The grading scale may be adjusted slightly, based on class performance

COURSE ORGANIZATION

The module material of a given week will be made available the Friday of the week before. A first batch the assignments will be due on the Tuesday and the rest on the Friday of a given module Week.

Assignment Topic/Quiz Description/Notes

Week 1 - Introduction

Topic/Quiz 1 Welcome from instructor: Syllabus Introduction
Initial Discussion Introduce yourself to the class

Week 1 - Module 1

Topic/Quiz 2 Why study plant pathogens?
Discussion Irish potato famine

Week 2 - Module 2

Topic/Quiz 3 & 4 Bacteria that cause plant disease, parts 1 & 2
Discussion 19th century bacteriology

Week 3 - Module 3

Topic/Quiz 5 Fungi that cause plant disease, part 1
Discussion Are fungi immortal?

Week 4 - Module 4

Topic/Quiz 6 Fungi that cause plant disease, part 2
Discussion What was the connection between ergot and witches?

Week 5 - Module 5

Topic- No Quiz Fungal-like organisms that cause plant disease
Discussion To be or not to be: fungi versus fungal-like organisms

FIRST EXAM, MODULES 1-5

Week 6 - Module 6

Topic/Quiz 7 Viruses that cause plant disease
Discussion Going Viral -viral origins

Week 7 - Module 7

Topic/Quiz 8 Parasitic plants that cause disease
Discussion Mistletoe and its place in history

Week 8 - Module 8

Topic/Quiz 9 Nematodes that cause plant disease
Discussion Nematode extraction methods

Week 9 - Module 9

Topic/Quiz 10 What are noninfectious plant diseases?
Discussion Are abiotic diseases really disorders?

Week 10 - Module 10

Topic/No Quiz What types of diseases do plant pathogens cause?
Discussion Did plants or fungi evolve first?

MIDTERM EXAM, MODULES 6-10

Week 11 - Module 11

Topic –Quiz 11 How do we detect plant pathogens?
Discussion New ways to detect plant pathogens

Week 12 - Module 12

Topic/Quiz 12 How do pathogens interact with plants?
Discussion A give and take relationship

Week 13 - Module 13

Topic/Quiz 13 How do people influence plant disease epidemics?
Discussion Which forms of influence are worst?

Week 14 - Module 14

Topic/Essay due/quiz 14 How do we prevent or manage plant disease epidemics?
Discussion Plant disease epidemics- common management themes

Week 15 - Module 15

Topic/No quiz Hungry Planet
Discussion Food Security

FINAL EXAM, MODULES 11-14

UF POLICY

Academic Honesty: UF students are bound by the Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class. 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.

Online Course evaluations: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu>

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/

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

www.crc.ufl.edu/

- *Emergencies, University Police Department: 392-1111 or 9-1-1*

Students with Disabilities: Students requesting classroom accommodation must first register with the Dean of Student Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. 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/