

PLP 3230: SURVEY OF PLANT PATHOGENS

Undergraduate online course (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. You can download a pdf copy of PLP3230 syllabus at <https://plantpath.ifas.ufl.edu/academics/course-list-with-syllabi/>.

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: a total of 14 modules are available with audio recording links and pdf handouts.

Instructor: Dr. Liliana Cano (<https://irrec.ifas.ufl.edu/cano/>)

Webpage: Canvas course link

Contact Information:

- Dr. Liliana M. Cano
 - **Email (the most efficient):** Use the Canvas email in priority. If you do not have access to e-learning platform use email lmcano@ufl.edu.
 - **Office phone:** 772-577-7350 (please leave a message).
 - **Office hours:** Zoom conferencing on Monday, Wednesday and Friday from 12-1pm (other times from Monday to Friday can be arranged by request).

TEXTBOOKS

Required Readings:

1. 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. (Chapters 1-11 and Appendix 3)
2. Gail L. Schumann and Cleora J. D'Arcy. 2012. *Hungry Planet*. Second Edition. APS Press, American Phytopathological Society, St Paul, MN. ISBN: 978-0-89054-399-3. (Chapter 14).

EVALUATION OF LEARNING

Assignment	% of grade	Point values	Breakdown of Quiz/Discussion point values:	
Quiz/Discussion	70	=1500	15 Quiz	50 points X 15 = 750
First Exam	10	=250	15 Discussion	50 points X 15 = 750
Mid-Term Exam	10	=250		=1,500
Final Exam	10	=250		

Notes on Discussion Post Assignment: To be completed by students and then posted to the discussion section for each module of the course website for credit. Each submitted assignment should consist of 500 words or less. Each student will also be expected to post a reply to at least two other students' posts in order to receive credit.

Notes on Presentation Slide Assignment: To be completed by students for the first, midterm and final exam and posted in the course website for credit. For this assignment students can add audio/video recording which is optional.

Table 1. Rubric for grading discussion post assignments (modules 1-14).

Rubric for Discussion Post Assignment

PLP3230 course Survey of Plant Pathogens

Instructor: Liliana M. Cano. Department of Plant Pathology. University of Florida.

Criteria	Emerging skill (5 points)	Developing skill (15 points)	Mature skill (25 points)	Score
Content, organization of answer, analysis of the topic of discussion, and conclusion.	Answer is incomplete. The evidence listed it is not organized and does not present a clear argument for a given position. Unsupportable conclusion.	Answer is mostly complete. Organizes evidence related to the question. States a conclusion with arguments. Occasional errors and poor transitions of ideas reduce clarity of the response.	Answer is complete; sufficient detail provided to support assertions. Organizes and synthesizes evidence to reveal insightful differences or similarities related to the question. States a logical conclusion with clear arguments.	25
Response to peers	Fully responds to at least two peers with substantive posts, including questions and/or comments.	Responds to peers but posts are not sufficiently substantive or are irrelevant OR responds to only one peer.	Does not respond to peers OR posts are not substantive, contain inaccurate information, or are impolite.	25
Total				50 points

Table 2. Rubric for grading presentation slide assignments (first, midterm and final exam):

Rubric for Presentation Slide (with optional Audio/Video Recording) Assignment

PLP3230 course Survey of Plant Pathogens

Instructor: Liliana M. Cano. Department of Plant Pathology. University of Florida.

Note: A summary presentation slide made with power point is required for this assignment. Audio/video recording besides your summary slide is optional for this assignment.

Criteria	Emerging skill (5 points)	Developing skill (15 points)	Mature skill (25 points)	Score
Summary, organization and transitions of ideas in the slide	The summary is incomplete. The organization and transitions between ideas are unclear or nonexistent.	The summary is complete. The organization and transitions between ideas are clear.	The summary is complete and raise points for further discussion. Demonstrates skillful use of transition and connections between ideas.	25
Supporting material	There is not reference material.	Reference material is incomplete.	Relevant reference material is included in the presentation.	25
Total				50 points

Grading Scale

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

Scale	Grade
93.5-100%	A
89.5-93.49%	A-
85.5-89.49%	B+
83.5-85.49%	B
79.5-82.49%	B-
75.5-79.49%	C+
72.5-75.49%	C
69.5-72.48%	C-
65.5-69.49%	D+
62.5-65.49%	D
59.5-62.49%	D-
<59.49%	E

COURSE ORGANIZATION

Introduction	Topic/Quiz Discussion	Welcome from instructor: Syllabus Introduction Introduce yourself to the class
Module 1	Topic/Quiz Discussion	Why study plant pathogens? The Irish potato famine
Module 2	Topic/Quiz Discussion	Bacteria that cause plant disease The use of antibiotics to combat citrus greening disease
Module 3	Topic/Quiz Discussion	Fungi that cause plant disease Coffee leaf rust fungal disease and climate change
Module 4	Topic/Quiz Discussion	Oomycetes that cause plant disease Rapid emergence of fungal-like pathogens in agriculture
Module 5	Topic/Quiz Discussion	Viruses that cause plant disease Viral origins
FIRST EXAM, MODULES 1-5		
Module 6	Topic/Quiz Discussion	Parasitic plants that cause disease Disease management of witchweed, a destructive parasitic plant
Module 7	Topic/Quiz Discussion	Nematodes that cause plant disease How to control root-knot nematodes
Module 8	Topic/Quiz Discussion	What are noninfectious plant diseases? Frost damage in cereals
Module 9	Topic/Quiz Discussion	What types of diseases do plant pathogens cause? Brown rot disease of stone fruits
Module 10	Topic/Quiz Discussion	How do we detect plant pathogens? New ways to detect plant pathogens
MIDTERM EXAM, MODULES 6-10		
Module 11	Topic/Quiz Discussion	How do pathogens interact with plants? A give and take relationship
Module 12	Topic/Quiz Discussion	How do people influence plant disease epidemics? Which forms of influence are worst?
Module 13	Topic/Quiz Discussion	How do we prevent or manage plant disease epidemics? Plant disease epidemics, common management themes
Module 14	Topic/Quiz Discussion	Hungry planet future of agriculture International Agricultural Research Centers
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 of 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, <https://counseling.ufl.edu/>; Career Resource Center, First Floor JWRU, 392-1601, <http://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/.*