

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) Describe the statements that define the Koch postulates.
- 3) Define plant pathology and associate other disciplines associated with plant pathology.
- 4) Explain the disease triangle and the relations between the three components.
- 5) Compare types of plant diseases and type of symptoms.
- 6) Distinguish plant diseases based on disease symptoms and hosts specificity.
- 7) Summarize major emerging plant pathogens in crop systems and evaluate examples of recent epidemics.
- 8) Examine and explain examples of plant pathogens that cause disease and how they spread.
- 9) Recommend strategies to manage plant diseases.
- 10) Explain the importance of plant pathogens to modern agriculture.

CONTACT INFORMATION

Instructor: 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).
- **Cyber office hours:** online conferencing via skype every Friday 11am-12pm (or by request)

Teaching Assistant (TA): 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.

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

Assignment	% of Grade	Points
Quiz/Discussion	70	1500
First Exam	10	250
Mid-Term Exam	10	250
Final Exam	10	250
Total	100	2250

Assignment Breakdown	Points x Number of assignments = Total Points
Quiz	50X15= 750
Discussion	50X15= 750
Total	1500

Exams	Content covered
First Exam	Modules 1-5
Mid-Term Exam	Modules 6-10
Final Exam	Modules 11-14

COURSE ORGANIZATION

Please revise due dates for each module by clicking section “Home” or “Syllabus” in canvas.

Module 1: Why to study plant pathogens?

Module 2: Bacteria that cause plant disease

Module 3: Fungi that cause plant disease

Module 4: Oomycetes that cause plant disease

Module 5: Viruses that cause plant disease

Module 6: Parasitic plants that cause plant disease

Module 7: Nematodes that cause plant disease

Module 8: Abiotic factors that cause plant disease

Module 9: What type of disease do plant pathogens cause?

Module 10: How do we detect plant pathogens?

Module 11: How do plant pathogens interact with plants?

Module 12: How do people influence plant disease epidemics?

Module 13: How we can prevent or manage plant disease epidemics?

Module 14: Hungry planet future of agriculture

Module 15: Bonus
