Introduction:
The purpose of this course is to introduce students to the basic principles and concepts of plant disease management, and to reinforce these concepts with practical examples. The course includes a laboratory session that will focus on improving students skills in knowledge translation and Extension outreach communication. The course is suitable for graduate students in Plant Pathology & Crop Physiology, Entomology, Plant, Environmental & Soil Sciences, and Landscape Architecture, who wish to take a single graduate course that covers the practical aspects of plant disease management.

Prerequisites- General Plant Pathology (PLHL 4000) and Chemistry (CHEM2060) or Organic Chemistry (CHEM 2261)

Course Description:
Plant disease management and control using cultural practices, disease resistance, biological control, legislation, physical therapy, and pesticides; identity, properties, chemistry, mode of action, toxicity, and application of fungicides, bactericides, and nematicides; evaluation of chemicals for plant disease control.

Expectations:
Students will be expected to develop a working knowledge of the general methods of plant disease management, specific methods currently in use, and a general understanding of plant disease etiology and epidemiology as they relate to managing plant disease and reducing loss. Students must develop a working knowledge of terminology related to plant disease and disease management that will allow them to understand the literature in this area and to be conversant with other agriculture professionals.

Textbook: There is no required textbook for this course.

Suggested Resources:

Lectures: Monday and Wednesday
10:30 a.m. – 11: 50 a.m.
A465 Life Sciences Annex Bld.

Laboratory: Monday
1:30 p.m. – 3:30 p.m.
308 Life Sciences Bld.
**Instructors:**
Dr. Clayton A. Hollier  
428 Life Sciences Bld.  
225-578-4487  
chollier@agcenter.lsu.edu  
Office Hours: 8:30 am – 10:00 am Monday and Wednesday

Dr. Melanie Lewis Ivey  
426 Life Sciences Bld.  
225-578-8537  
mivey@agcenter.lsu.edu  
Office hours: 8:30 am – 10:00 am Monday and Wednesday

**Assignments:**
1. Preparation and presentation of Power Point slides  
2. White paper/news letter/ factsheet (pick one)  
3. Development of disease management program-written and oral

**Exams and Grading:**
Three (3) exams will be given during the semester. Collectively, the exams will equal 70% of your final grade. The three assignments listed above will equal 30% of your final grade.

During class discussions your participation is expected and questions are always welcome.

**Topics**
1. Course and lab objectives and expectations.  
2. Review of basic concepts in plant pathology  
3. Communication strategies for exchanging knowledge with stakeholders  
4. Principles and concepts in disease management  
5. Communicating using Power Point presentations  
6. Economic and social losses to plant diseases  
7. Disease and loss assessment  
8. Disease diagnosis and pathogen detections  
9. Cultural and physical disease management strategies  
10. Structure and function of plant diagnostic clinics  
11. The Nematode Advisory Service  
12. Genetic resistance  
13. Pesticide concepts  
14. Pesticide safety  
15. Communicating using notes, newsletters and fact sheets  
16. Public policy and disease management  
17. Advocating for agriculture research  
18. Writing white papers  
19. Fungicide control
20. Fungicide resistance management-Group discussion
21. Bactericides, nematicides and fumigants
22. Alternative disease management products
23. Communicating using social media
24. Alternative disease management products
25. Precision agriculture and its role in disease management
26. Integrated Pest Management (IPM)
27. IPM-Case studies
28. Management of diseases in controlled environments
29. Careers in plant pathology- Group discussion
30. Good Agricultural Practices
31. Fresh produce safety
32. Food safety and plant pathology-Group discussion