Plant Sciences (Plant Pathology) 4500/7500
Biology and Pathogenesis of Plant-Associated Microbes
Fall Semester, Annually

Lecture: 11:00 - 11:50 am MWF, 200 Waters Hall
Lab: 1:00 – 4:00 pm Monday, 40 Mumford Hall
Instructors: J. English, M. Mitchum, and J. Schoelz

Lecture/Lab	Topic	Lecturer
Unit 1: Oomycetes, Ascomycetes, and Mitosporic Pathogens		
1	The concept of disease	JE
Lab 1	Handling and Viewing Pathogens	JE
2	Pathogenic microorganisms	JE
3	Plant-microbe associations	JE
	LABOR DAY	
4	Disease in nature	JE
5	Oomycetes	JE
6	Oomycetes	JE
Lab 2	Plant Morphology/Anatomy	JE
7	Oomycetes	JE
8	Mitosporic Fungi /Infection Process	JE
9	Mitosporic Fungi	JE
Lab 3	Oomycetes and Fungi: Part I	JE
10	Ascomycetes	JE
11	Ascomycetes	JE
12	Trophic Associations/Disease Management	JE
Lab 4	Oomycetes and Fungi: Part II	JE
13	Basidiomycetes	JE
	Exam #1	
Unit 2: Epidemiology and Nematodes		
14	Basidiomycetes	JE
Lab 5	Symptoms and Signs/Kock's Postulates	JE
15	Basidiomycetes	JE
16	Mycorrhizae	JE
17	Nematology	MM
Lab 6	Environment and Infection	JE
18	Nematology	MM
19	Nematology	MM
20	Nematology	MM
Lab 7	Root Knot Nematode: Part I	MM
21	Nematology	MM
22	Nematology	MM
23	Nematology	MM

24	Nematology	MM
	Exam #2	

Unit 3: Diseases Caused by Bacteria and Viruses

25	Viral Diseases	JS
Lab 8	ELISA for Diagnosis	JS
26	Viral Diseases	JS
27	Viral Diseases	JS
28	Virus Diseases	JS
Lab 9	Virus Pathogenicity and Host Defenses	JS
29	Diseases of Row Crops in Missouri	LS
30	Bacterial Diseases	JS
31	Bacterial Diseases	JS
Lab 10	PCR and Plasmid Purification	JS
32	Bacterial Diseases	JS
33	Bacterial Diseases	JS
34	Bacterial Diseases	JS
Lab 11	Plasmid Transformation and Gel Electrophoresis	JS
35	**Exam #3**	

Unit 4: Genetic Engineering and Plant Defense Against Disease

36	Pathogen Attack Strategies	JS
	THANKSGIVING HOLIDAY WEEK	
37	Genetic Engineering for Disease Management	JS
Lab 12	Detection of Foreign Genes in Plants	JS
38	Genetic Engineering for Disease Management	JS
39	Gene-for-Gene Theory	JS
40	Plant Defense	JS
Lab 13	Root Knot Nematode: Part II	MM
41	Plant Defense	JS
	Reading Day	

Final Exam Date: To be announced. The exam will cover the material in Unit 4, as well as broad concepts in plant pathology introduced throughout the semester. This will include some knowledge of plant pathogens learned in Units 1 – 3.

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