

PLP 6241C and PLP 4242C - Bacterial Plant Pathogens

Spring 2025

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Catalog statement: Three credits. Prerequisite PLP 3002, MCB 3020, or equivalent. Relationships of bacterial plant pathogens and interactions with their hosts.

Class meetings: Lectures, paper discussions, and labs will be held in Fifield Hall Room 2306. Lectures will be Monday, Wednesday, and Friday 5th period. Labs will be held Tuesday and Thursday 5th and 6th period. Paper discussions will be Wednesday 6th period. Lecture schedule is posted under "Files" and subject to change as appropriate.

Course objectives: This survey of phytobacteriology focuses on familiarizing students with basic bacteriology including structure and function, characteristics of the common phytopathogenic bacterial genera, procedures for identification of phytopathogenic bacteria, factors involved in host-parasite interactions (susceptible and hypersensitive reactions), and strategies used to control phytopathogenic bacteria.

Suggested References:

Laboratory guide for the identification of plant pathogenic bacteria (Third Edition. Schaad, Jones and Chun, APS Press) is not required for this course, although it is useful to those interested in bacterial identification. The guide also should be useful to DPM students and others interested in bacterial identification.

Phytobacteriology: Principles and Practices by J. D. Janse (CABI Publishing) is a good general reference for students.

Another good reference is Plant Bacteriology by Clarence I. Kado (APS Press).

Laboratory: All students are required to take all scheduled laboratories. The students will keep a lab notebook and describe their observations for each lab. Students will work in pairs and will be provided in laboratory session 3 with two plant-associated bacteria (i.e., unknowns) and the host from which the bacteria were isolated. The students will need to identify the organisms to genus and, if possible, by the protocols provided, to species level. Unknown strains will be characterized throughout the course and will require some extra time outside of the laboratory period due to time considerations. Students will work in groups and will write two disease notes related to their two unknowns. The students will describe the diseases and

the steps used for accurate diagnosis. (see instructions: (http://apsjournals.apsnet.org/userimages/ContentEditor/1236780011229/pd_a_uthor_instructions.pdf (Links to an external site.))

Journal Club: A one hour journal club will be conducted during the 6th period on designated Wednesdays as indicated in the lecture schedule. All students will participate in the journal club in which two papers will be discussed each week. The instructor will select the papers for discussion, and all students are required to read the papers. A discussion of each paper will be led by selected graduate students. The number of students responsible for preparing a presentation for each paper is dependent on the number of students in the class. All students will discuss the paper during the presentation. It is imperative that all graduate students participate in discussions. We will also include questions from each paper on exams; therefore, each presentation should have a summary that includes 2-3 take-home messages. It is recommended that students submit their paper presentation for editing at least 1 day prior to the presentation.

Grading: Three tests, including the final, will be given during the semester. Exams will constitute equal portions and account for 75% of the final grade. The laboratory and journal club will count for 15% (5% for disease note) and 10% of the grade, respectively. Five maximum extra credit points will be available on final exam for disease/pathogen association list. For undergraduates the requirements are similar. However, undergraduates need not prepare a presentation and are not required to discuss the papers.

Laboratory	10
Disease note	5
Journal disc	10
Exam 1	25
Exam 2	25
Final	<u>25</u>
	100

Grading scale is 94-100 A; 90-93 A-; 87-89 B+; 84-86 B; 80-83 B-; 77-79 C+; 74-76 C; 70-73 C-; 67-69 D+; 64-66 D; 60-63 D-.

Office hours: Dr. Jones's office is Fifield Hall, Room 2553; Dr. White's office is Fifield Hall, Room 1443. If you have questions, please call to make an appointment, or stop by one of the offices. We are usually available to answer questions most times of the day.

The following statements are included at the request of the College of Agriculture:

Students requesting classroom accommodations must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodations.

ACADEMIC HONESTY: As a result of completing the registration form at the University of Florida, every student has signed the following statement: "I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." We agree to comply with the new Honor Code, which specifies that "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."

Software Use: All University faculty, staff, and students 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.