PLANT PATHOLOGY 514 PHYTOBACTERIOLOGY 3 Credits

Vogel Plant Science Building Room 31 T TH 9:10-10:25 Fall Semester, 2016

INSTRUCTOR: TBD

REQUIRED TEXT: J. D. Janse (2005) Phytobacteriology: Principles and Practice, Cabi Publishing. Available at the WSU Bookstore.

COURSE OBJECTIVE: To provide you with an understanding of the biology, physiology, genetics, and biochemistry of bacterial plant pathogens and bacteria associated with plants.

COURSE WEBSITE: BLACKBOARD, accessed from MyWSU

Student Learning Outcomes At the end of this course, students should be able to:	Course Topics/Dates The following topic(s)/dates(s) will address this outcome:	Evaluation of Outcome: This outcome will be evaluated primarily by:
Demonstrate scientific literacy in major concepts and processes relative to the major groups of plant pathogenic bacteria	Weeks 1-10	Exam 1 and 2
Locate and evaluate sources of scientific information on fungi and fungal-like organisms.	Weeks 10-15	Exam 3
Communicate and work effectively in groups in developing presentations	Weeks 10-15	Exam 3

LECTURE TOPICS
Lecture Objective:

Week 1

Introduction to plant bacteria

History of phytobacteriology

Week 2

Bacterial structure

Rhizobium, *Bradyrhizobium*, and other rhizobia

Week 3

Bacterial growth and nutrition

Bacterial classification I; species concept

Week 4

Bacterial classification II

Agrobacterium

Week 5

Erwinia, *Brenneria*, and *Pantoea* -- the *amylovora* and *herbicola* groups

Erwinia (*Pectobacterium*) -- the *carotovora* group

Week 6

Exam I

Agrobacterium genetics

Week 7

Pseudomonas (fluorescent)

Ralstonia, Burkholderia, and *Acidovorax (*Nonfluorescent pseudomonads)

Week 8

Xanthomonas

Arthrobacter, Clavibacter, Curtobacterium, *Rathayibacter*, and *Rhodococcus*

Week 9

Spiroplasmas, phytoplasmas, and xylem-limited bacteria

Symptoms Caused by Plant-Pathogenic Bacteria

Week 10

Bacteriocins/ bacteriophage

Exam II

Week 11

Hypersensitive reaction

Host-pathogen recognition I

Week 12

Host-pathogen recognition II

Other types of host resistance

Week 13

Enzymes in pathogenesis; pectolytic enzymes

Mechanisms of bacterial pathogenicity

Thanksgiving Vacation

Week 14

Bacterial phytotoxins I

Bacterial phytotoxins II

Week 15

Epidemiology and Control of Bacterial Plant Diseases/

Genetics of other plant pathogenic bacteria

Finals week

Final exam

Grading System

	Total Points
Three written exams of 100 points each	300

Grade Assignment

94.0 – 100%	A
90.0 – 93.9	A-
87.0 – 89,9	B+
83.0 – 86.9	B
80.0 – 82.9	B-
77.0 – 79.9	C+
73.0 – 76.9	C
70.0 – 72.9	C-
60.0 – 69.9	D
< 59.9	F

Cell phone users:
Out of respect for myself and your colleagues please turn off your cell phones during class. Please do not make outgoing calls or accept calls during the lectures.

Policy on Attendance, Participation and Late Assignments
Attendance and active participation in discussions are required. Students will receive a 10-point penalty for each unexcused absence. Exams will only be given on the designated dates unless prior arrangements are made.

Academic Integrity Statement
Academic integrity is the cornerstone of the university. Any student who attempts to gain an unfair advantage over other students by cheating, will fail the assignment and be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3).

WSU Disability Statement
Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. For more information contact a Disability Specialist: 509-335-3417 http://accesscenter.wsu.edu, Access.Center@wsu.edu

WSU Safety and Emergency Notification:
Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan

(http://safetyplan.wsu.edu/) and visit the Office of Emergency Management web site (http://oem.wsu.edu/) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.