PLP 6905 (Section REC0): General Plant Pathology, Fall 2022

COURSE INSTRUCTOR: Dr. Brantlee Spakes Richter
Office: 2519 Fifield Hall
Phone: 352-273-2014
Email: For class-related communications, please use email within Canvas
Office Hours: Drop-in T/Th 4:00-5:00 PM, or by appointment
COURSE WEB SITE (Canvas): https://lss.at.ufl.edu/
CLASS TIME/LOCATION: online via MS Teams, Tuesday and Thursday period 4 @ 10:40-11:30 am

COURSE: Fundamentals of Plant Pathology (PLP 3002C) and General Plant Pathology (PLP 5005C) are taught with concurrent lectures. The lectures are the same for both courses, but the exams and grading structures are different; students enrolled in PLP 5005 are required to participate in additional research paper discussions and have slightly different exams, reflecting the higher expectations for graduate level study. The PLP 6905 version of the course will allow graduate students statewide to attend the shared lectures and participate in the paper discussions, without taking the regular laboratory-based course, offered only on the Gainesville campus.
PREREQUISITE: Graduate standing, prior course work in plant biology and general biology
CREDITS: 3

TEXT: Plant Pathology 5th Ed. (2005) by G. N. Agrios, Elsevier Academic Press, Inc. Free access to the 5th Edition is available in both print and electronic version through UF course reserves. The 4th edition of this book is also acceptable.

INTRODUCTION & OBJECTIVES: Plant pathology is the science of plant diseases, the microorganisms that cause them, and the interactions between pathogens and hosts. The ultimate goal of plant pathology is to reduce the losses caused by plant diseases, thereby increasing quality and quantity of plant yields. Plant diseases are caused by many of the same types of organisms that cause diseases in animals and humans and, as such, many of the principles that apply to animal and human medicine also apply to plant diseases. This course introduces students to the many different types of plant pathogens, their basic biology, examples of the types of disease they cause, and the principles and concepts of disease development, spread, and management. This course will provide students with a solid, foundational understanding of disease cycles, host-pathogen interactions, and pathogen biology, sufficient to prepare them for higher-level coursework or research in plant pathology, and/or prepare them to manage plant health issues that may arise within any plant science related career. The learning objectives of the lecture-only course are:

1. Students are expected to attain mastery of vocabulary in the subject, familiarity with the resources and conventions of the field, and comprehension of the mechanisms underlying disease, such that they can effectively assess and use both primary and secondary literature to make disease management decisions.
2. Students will be prepared to engage in written and verbal critical discourse about plant disease research methods and applications.

ATTENDANCE: You are expected to participate in every class. There will be quizzes and/or class activities which will serve as a regular "self-test" of your understanding as we move through the course, and will contribute 5% to your course grade. **Lectures will be live-streamed via MS Teams**, allowing students to participate remotely in real-time, using both video and chat bar functions to join class discussions. Absences due to illness or emergency will be excused; absences due to observation of religious holidays or participation in official university or professional functions will be excused *only with advance notice*. Requirements for class attendance and make-up exams, assignments and other work are consistent with

university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

ASSIGNMENTS AND GRADING: Grade categories will be distributed as follows:

Component	Percent of Grade
Exam 1	7
Exam 2	16
Exam 3	16
Exam 4	16
Final Exam (Comprehensive)	25
Class Participation	5
Article Discussions (best 3 of 4)	15
TOTAL	100

Exams: There will be five lecture exams (four mid-term exams and a final). The in-term exams (1-4) will be given online, and you will have a 3-day window in which to take each one, beginning immediately after the last lecture in the unit. This will allow you to (1) have some flexibility in scheduling your study time around other courses, (2) take the exam at the time of day you are most alert and in an environment in which you are comfortable, and (3) have more time to complete the exam than the standard 50-minute class period. Exams 1-4 are not comprehensive; each will focus on material from the preceding set of lectures and supporting labs. The final will be comprehensive, covering material from the entire semester. **The final lecture examination** will be held in the regular lecture room during the university-assigned exam period, December 15 at 7:30-9:30AM. For students at RECs, we will arrange to have the exam proctored at your location, so that you do not have to come to Gainesville.

Article Discussions: Students will participate in four online article discussions using the PerusAll platform. Brief wrap-up discussions will be held during lab meetings for PLP5005 students; PLP6905 students will have opportunity to schedule wrap-up discussions at a time TBA according to participant schedules. Each article discussion will be worth 50 points. You can earn all 50 discussion points from the online analysis portion of the assignment, or you can "make up" up to 10 points for active participation in the oral discussion during the lab period. If you participate in all four discussions, your best three discussion scores (/150 points) will be used in the final grade calculations. If you do not participate in a discussion (unexcused absence, or score of <20%), all scores will be averaged to calculate your final discussion grade. You will find the complete assignment description, discussion articles, and grading rubrics on the class site in Canvas.

Class Participation: The undergraduate and online graduate sections of this class have a participation grade, which will come from in-class quizzes and online activities, delivered through Canvas.

Grade Scale: Final grades will be designated according to the following grade scale. This course uses the grade book function in Canvas for records-keeping and grade calculation; grades will be calculated on a percentage basis, but total course points associated with each percentage are given here for your convenience. For information on current UF policies for assigning grade points, see:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Letter Grade	Percentage
A	92.00 – 100
A-	90.00 – 91.99
B+	88.00 – 89.99
B	82.00 – 87.99
B-	80.00 – 81.99
C+	78.00 – 79.99
C	72.00 – 77.99
C-	70.00 – 71.99
D+	68.00 – 69.99
D	62.00 – 67.99
D-	60.00 – 61.99
E	00.00 – 59.99

ACADEMIC HONESTY

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. In this course, any violation of the academic integrity expected of you will result in a minimum academic sanction of a failing grade on the assignment or assessment. Any alleged violations of the Student Honor Code will result in a referral to Student Conduct and Conflict Resolution. Please review the Student Honor Code and Student Conduct Code at sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

Some assignments in this course will require collaboration, and collaborative study is generally encouraged. You may discuss your answers on in-class participation quizzes, unless otherwise notified; however, you may not work or collaborate with others on lecture exams or any other take-home exams or assignments. If you have any questions about expectations for a particular assignment, about what constitutes plagiarism, or about how to ensure that you are using and crediting sources appropriately, please speak with your instructor or a TA. We are here to help, and we would much rather give you the guidance you need to avoid academic integrity violations, than have to report them after they occur!

SOFTWARE USE

All faculty, staff and students of the university 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.

CAMPUS HELPING RESOURCES

The University of Florida provides a wide range of student services to help with common issues which may interfere with your success, including disabilities, physical or mental illness, food insecurity, and personal safety. You can find links to many of these resources at http://www.ufl.edu/student-life/health-safety/
If you are experiencing problems that are interfering with your studies and you don't see an appropriate resource listed here, contact the Dean of Students Office (https://www.dso.ufl.edu/), and they can help connect you with the appropriate support.

Counseling Services: Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available

on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* www.counseling.ufl.edu/cwc/
- *Career Resource Center,* Second Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities: 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/
The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation 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 accommodation.

COURSE EVALUATIONS
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

RECORDING POLICIES
I have always allowed audio recordings of my lectures as a study aid, and this semester I will be making video recordings available to all students through our class TEAMS space. UF has recently published the following updated guidelines for student recordings of class activities.

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are:

1. For the student's own personal educational use;
2. In connection with a complaint to the University where the recording is made;
3. As evidence in, or in preparation for, a criminal or civil proceeding.

All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture **does not include** lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in

part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

THE INSTRUCTOR RESERVES THE RIGHT TO CHANGE OR MODIFY INFORMATION PROVIDED IN THE SYLLABUS. CLASS ANNOUNCEMENTS SUPERSEDE SYLLABUS STATEMENTS.

COURSE LECTURE SCHEDULE Fall 2021

Date	Topic	Reading (Agrios 5th ed.)*
	Unit 1: Central Concepts in Plant Pathology	
Aug 25	Introduction to Plant Pathology, terminology	Ch. 1: 4-42, 71-75
Aug 30	Diagnosis & Abiotic disorders	Ch.10: 358-383
Sept 01	History of Plant Pathology	Ch. 1: 4-42, 71-75
Sept 06	Disease development and cycles	Ch. 2: 77-89, 96-102
	Unit 2: Fungal & Bacterial Pathogens	
Sept 08	Intro Plant Pathogenic Fungi & Fungal diseases	Ch. 11: 385-404
Sept 13	Fungal Pathogens I: Chytrids, Mucoromycota, Ascomycota	Ch. 11: 433-561
Sept 15	Fungal Pathogens II: Basidiomycota	Ch. 11: 593-610
Sept 20	Fungal Pathogens III: Rusts & Smuts	Ch. 11: 562-592
Sept 22	Non-Fungi Fungal Pathogens: Oomycota & Co.	Ch. 11: 404-433
Sept 27	Intro Plant Pathogenic Bacteria & Bacterial Diseases	Ch. 12: 615-627
Sept 29	Bacterial Pathogens	Ch. 12: 627-703
Oct 04	Exam 2	
	Unit 3: Virus & Nematode Pathogens	
Oct 06	Intro Plant Pathogenic Viruses & Viral Diseases I	Ch. 14: 724-756
Oct 11	Intro Plant Pathogenic Viruses & Viral Diseases II	Ch. 14: 724-756
Oct 13	Virus Pathogens	Ch. 14: 757-824
Oct 18	Plant Pathogenic Nematodes	Ch. 15: 826-836
Oct 20	Nematode Pathogens	Ch. 15: 838-874
Oct 25	Exam 3	
	Unit 4: Pathogenicity & Host Defense	
Oct 27	Genetics of Plant disease	Ch. 4: 125-174
Nov 01	Genetics of Plant disease	Ch. 4: 125-174
Nov 03	How pathogens attack plants	Ch. 5: 176-203
Nov 08	Plant defenses – structural & biochemical	Ch. 6: 210-236
Nov 10	Environmental factors & infectious diseases	Ch. 7: 249-265
Nov 15	Exam 4	
	Unit 5: Epidemiology & Management	
Nov 17	Plant disease epidemiology	Ch. 8: 266-289
Nov 22	Cultural control of plant diseases	Ch. 9: 295-348
Nov 24	*Thanksgiving break – No classes*	
Nov 29	Biocontrol of plant diseases	Ch. 9: 295-348
Dec 01	Chemical control of plant diseases	Ch. 9: 295-348
Dec 06	Integrated approaches to disease management	Ch. 9: 295-348
Dec 14	Final Exam @ 5:30-7:30 PM	

* Numbers refer to chapters/pages of Agrios 5th edition text which correspond to the lecture topics. You will not be responsible for materials within these chapters that are not also covered in lecture and/or lab. The Agrios text covers many more examples than will be highlighted in this class; use the course slides as a guide to direct your reading.