COURSE TITLE AND NUMBER:
Introductory Plant Pathology: PLP/MIC 305 sections 001, LECTURE, AND 102/003, ONLINE

COURSE DESCRIPTION:
This course provides an overview of plant pathology, the factors contributing to plant pathogenesis, and contemporary strategies for management. Content will include information on microbial strategies for infecting plants, plant strategies for defense, specific organisms that cause plant disease, and methods used to control disease in agricultural and horticultural environments.

LOCATIONS AND TIMES:
Fall semesters. Section 001 in Marley 230, TTh 12:30-1:45. Sections 102/003, ONLINE - D2L

INSTRUCTOR INFORMATION:
Barry Pryor, Professor of Plant Pathology and Microbiology, bmpryor@email.arizona.edu
Marley 341G, 626-5312
Office Hours: Tues & Thurs 2:00 - 3:00, for all sections, or use email.
Instructor homepage: http://cals.arizona.edu/spls/node/136

Teaching Assistant:
Shuzo Oita, Graduate Research Assistant, shuzoo@email.arizona.edu
Marley 821D, phone: TBA
Office Hours: TBA

COURSE OBJECTIVES/EXPECTED LEARNING OUTCOMES:
Upon completion of the course, students will be able to DESCRIBE examples plant disease epidemics that have changed the course of history and to DISCUSS these events within an environmental and social context. Students will also be able to DESCRIBE the biology and ecology of organisms that cause plant and DISCUSS environmental factors that contribute to disease development. Students will also be able to EXPLAIN the mechanisms by which these organisms enter plants and the defense strategies plants use to combat infectious agents. Students will be able to DESCRIBE a number of specific plant diseases, DIAGNOSES diseases of unknown etiology, and how to MANAGE plant disease outbreaks under varying environmental conditions.

COURSE METHODOLOGY/TEACHING FORMAT:
Students will read material from the assigned textbook, select handouts, and select internet links, and take self quizzes to prepare for the graded work, which will include exams and on-line assignments.

TOPICS:
1. Historically important plant disease epidemics in the last 200 years.
2. The role of the environment as a primary and secondary causal agent of plant disease
3. Mechanisms of pathogen invasion and plant defense
4. Bacteria, viruses, fungi, nematodes and other organisms as plant pathogens
5. Methods used in the identification of plant pathogens and disease diagnosis
6. Principles and methods of disease management

S://201/SYLLABUS CONTENT AND FORMAT
REQUIRED/RECOMMENDED KNOWLEDGE:
Introductory Biology at the college level.

REQUIRED TEXT:
Reading assignments: see lecture schedule below. This textbook also has an accompanying CD with additional reading, vocabulary lists, illustrations, and assignments and is a valuable complement to the text.

In addition to summary material presented in class Powerpoint presentations, additional material will be presented from online sources. Many of these lessons will available on the APS web site (http://www.apsnet.org/) under the pull down menu Education center - Teaching resources - Introductory - Plant Disease Lessons. At this same site you also will find a very good illustrated glossary and other lessons and information about plant diseases that will likely help you as you learn new terminology and concepts.

INFORMATION ON HOW TO USE D2L:
1. Go to http://d2l.arizona.edu/ to access D2L
2. Enter your netID login and password
3. Go to “My Academic Courses” If your course does not appear:
   a. Click on the down arrow beside the current semester.
   b. Click on the down arrow beside the department name, and then
   c. Click on your course name.
   d. You should now be at your D2L Course Home Page.

Links to the Directions for all assignments are under the CONTENT heading in the course site found in the lower tool bar. If you have difficulty with D2L, please read the D2L Tip Sheet at http://eebweb.arizona.edu/faculty/dornhaus/courses/d2l%20tip%20sheet%20students.pdf. Problems using D2L can also be reported using this Web link http://help.d2l.arizona.edu/node/153. Additionally you can contact UITS 24/7 at: http://uits.arizona.edu/departments/the247 or directly at - (520) 626-TECH (8324)

GENERAL COURSE POLICIES AND REQUIREMENTS:
1. To participate in this course, students must have daily, reliable access to D2L.
2. In Section 001, student must also have clickers compatible with the UA system and Turning Technologies. In Sections 102 and 003, students will be required to register access to Turning Technologies, but use a cell phone to access the app.
3. Assignments must be turned in by the required date and time. Late assignments will be accepted but points will be deducted according to the metrics provided below.
4. Students are expected to spend 6 to 9 hours per week on work related to this course.
5. You should check D2L announcements daily for new information related to the course.
6. E-mails will be answered within 24 hours or 48 hrs on weekends.
7. Work turned in early will be held until the due date and graded with the rest of the papers or assignments, unless the student asks for feedback prior to submitting a final draft.
8. Weekly announcements will be posted every Sunday for the upcoming week.
EXAMS AND GRADING POLICY:
Final numerical grades are calculated as a percentage of total points received by each student out of 700 possible points. There will be three exams and a final exam each worth 100 points. All exams for all sections will be given online. On the day of each exam, the exam will open online at 8 am and will close promptly at 8 pm. The student will have 75 minutes to complete each midterm and 90 minutes to complete the final, and the student can take the exams anytime during the open period as long as they finish by 8 pm. There will be no class on the day of the exams.

Weekend Assignments:
There will be several weekend assignments that will also be completed online. The assignments will be posted on Thursdays or Friday and will be due the following Tuesdays at 10 am for a total of 100 pts (10 x 10 pts each). There will be a pre-course survey assignment due online on the first weekend of class worth 10 pts. There will also be a post-course survey completed online after the last class but before the final exam worth 10 pts. Attendance for lecture section and the timely viewing of recorded lectures by online sections (like attendance) will be recorded and be worth 50 points (2 x 25 = 50, 6.25% of grade).

100% Engagement:
A term project will consist of a pressed plant disease collection worth 100 pts and this will be handed in physically. For distance sections, this assignment will be submitted online. There will also be a plant disease Scavenger Hunt in the UA Arboretum worth 30 points. For distance sections, an alternative assignment will be given.

Letter grades will be determined as follows:

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<thead>
<tr>
<th>Score</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
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<tr>
<td>80-89%</td>
<td>B</td>
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<tr>
<td>70-79%</td>
<td>C</td>
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<tr>
<td>60-69%</td>
<td>D</td>
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<tr>
<td>Below 420</td>
<td>E</td>
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Grade definitions:
A: Achievement that is outstanding relative to the level necessary to meet course requirements.
B: Achievement that is significantly above the level necessary to meet course requirements.
C: Achievement that meets the course requirements in every respect.
D: Achievement that is worthy of credit even though it fails to fully meet the course requirements.
E: Represents failure (no credit) and signifies that the work was not worthy of credit or was not completed.

Honors Credit:
This course is currently not available for Honors Credit.

TENTATIVE ASSIGNMENT/TESTING SCHEDULE/DUE DATES:

<table>
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Week 1: Aug 21 and 23
Introduction: The Syllabus. Why study plant disease?
Historically significant plant diseases.

Week 2: Aug 28 and 30
Chapter 1. What’s wrong with my plant?
Chapter 8. What kind of diseases are there?

Week 3: Sept 4 and 6
Chapter 2. What are the causes of plant diseases? Introduction to fungi
Chapter 2. What are the causes of plant diseases? Introduction to fungi

Week 4: Sept 11 and 13
Chapter 2. What are the causes of plant diseases? Ascomycetes
Chapter 2. What are the causes of plant diseases? Ascomycetes

Week 5: Sept 18 and 20
Chapter 2. What are the causes of plant diseases? Basidiomycetes
Chapter 2. What are the causes of plant diseases? Basidiomycetes

Week 6: Sept 25 and 27
1st Midterm, Online (100 pts). Tuesday
Chapter 2. What are the causes of plant diseases? Oomycetes

Week 7: Oct 2 and 4
Chapter 2. What are the causes of plant diseases? Oomycetes
Chapter 3. What are the causes of plant diseases? Bacteria

Week 8: Oct 9 and 11
Chapter 3. What are the causes of plant diseases? Bacteria
Chapter 5. What are the causes of plant diseases? Viruses

Week 9: Oct 16 and 18
Chapter 5. What are the causes of plant diseases? Viruses
Chapter 4. What are the causes of plant diseases? Nematodes

Week 10: Oct 23 and 25
Chapter 6. What are the causes of plant diseases? Parasitic plants
Chapter 7. What are the causes of plant diseases? Abiotic factors

Week 11: Oct 30 and Nov 1
2nd Midterm, Online (100 pts). Tuesday
Chapter 9. How do plants interact with pathogens?
1st half of Plant Disease collection due (50 pts). Thursday

S://201/SYLLABUS CONTENT AND FORMAT
Week 12: Nov 6 and 8
Chapter 9. How do plants interact with pathogens?
Chapter 10. Environmental effects on disease
UA Arboretum; Plant disease scavenger hunt (50 pts). Open all week.

Week 13: Nov 13 and 15
Chapter 10. Environmental effects on disease
Chapter 10. Environmental effects on disease

Week 14: Nov 20
Chapter 11. Control: cultural, chemical, biological
Nov 23 is Thanksgiving!

Week 15: Nov 27 and 29
Chapter 11. Control: cultural, chemical, biological
Chapter 11. Control: cultural, chemical, biological

Week 16: Dec 4
3rd Midterm, Online (100 pts), Tuesday
2nd half of Plant Disease collection due (50 pts). Tuesday
Final exam: Friday Dec 7, ONLINE (100 pts)

POLICIES:
Missed Assignments or Exams Policy:
Students will be allowed to make-up an exam only on rare occasions for justifiable, extenuating circumstances. Students need to submit a written request attaching supporting documentation (e.g. doctors verification). Students will not be allowed to make-up exams for non-academic reasons (e.g. family vacation, early holiday travel). If a student is allowed to make up an exam, it will most likely be in an essay format. Students will generally not be allowed to make up online exams if they have computer or connection problems, and students are encouraged to take exams on campus in computer labs where there are multiple terminals available. If the professor agrees and a student is allowed to continue an exam because of a computer problem in the middle of their exam, they will only receive 50% of the score that they earn at the completion of that exam. Students will not be allowed to make up class discussions, or writing assignments without letting the instructor know in advance (via e-mail) that they will be missing class on a given day.

Electronic Media:
The use of laptops and tablets is not allowed in the classroom in section 001. The reason for this is that over the last few years their use has increased to such an extent that students using such electronic media are not focused on the content being delivered in real time and are focused on content displayed on a screen. This detracts from the opportunity for in-class interaction and discussion. If using electronic media is central to a student’s educational experience, the student is encouraged to enroll in either online section. There is no exception to this policy.

Student Interaction Guidelines:
STUDENT INTERACTION GUIDELINES


2) The University is committed to creating and maintaining an environment free of discrimination and harassment; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy. Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others. It is expected that students may disagree with the research presented or the opinions of their fellow classmates. To disagree is fine but to disparage others’ views is unacceptable. All comments should be kept civil and thoughtful.

3) The University seeks to promote a teaching and learning environment free from material and substantial classroom disruptions. This class runs under university policies regarding disruptive behavior. http://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting. Faculty members and teaching staff have the responsibility and authority to effectively manage their classroom environments.

4) The University seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare. The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. Threatening behavior can harm and disrupt the University, its community, and its families. Please see the following document for more information: http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Extra Credit Policy:
There is no Extra Credit officially scheduled for this course, but some opportunities may arise.

Late Policy:
An assignment turned in late will be reduced by a percentage of its total value based on the following schedule. 2 min<2 hr: 5%, 2<12 hr: 10%, 12<24 hr: 15%, 1<2 d: 30%, 2<4 d: 40%, 4 d and more: no credit. This policy does not apply to surveys, exams, or quizzes, which must be completed by the due date/time.

Attendance Policy:
This course is offered as a lecture and online. For lecture sections, attendance is taken in class by answering select questions through Turning Technology clickers and students must have a physical clicker. Phone apps are not acceptable. The correct answer for the clicker question will be discussed in class at the time the question is presented. For online sections, students will be expected to respond to the same questions via Turning Technologies within 24 hours of the posted
lecture via phone apps (and in some cases physical clickers). For online sections, the students must answer the question correctly, as evidence that they have reviewed the lecture and reviewed the clicker question discussion. Students will not be allowed to make up attendance (lecture or online) without letting the instructor know in advance (via e-mail) that they will be missing class on a given day.

All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students (or Dean designee) will be honored.

The UA’s policy concerning Class Attendance, Participation, and Administrative Drops is available at http://catalog.arizona.edu/2015-16/policies/classatten.htm

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: http://policy.arizona.edu/human-resources/religious-accommodation-policy.

Absences preapproved by the UA Dean of Students (or dean’s designee) will be honored. See http://uhap.web.arizona.edu/policy/appointed-personnel/7.04.02

Incomplete Grades:
Incomplete grades will be given only under special circumstances according to the university policy as stated on page 26 of "The University of Arizona Record 98-99 General Academic Manual".

Policy on Threatening Behavior:
The University seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare. The Arizona Board of Regents’ Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one’s self. See: http://policy.web.arizona.edu/~policy/threaten.shtml. Threatening behavior can harm and disrupt the University, its community and its families. Please see the following document for more information: http://policy.arizona.edu/threatening-behavior-students.

Special Needs and Accommodations Statement
Students who need special accommodation or services should contact the Disability Resources Center, 1224 East Lowell Street, Tucson, AZ 85721, (520) 621-3268, FAX (520) 621-9423, email: uadrc@email.arizona.edu, http://drc.arizona.edu/. You must register and request that the Center or DRC send me official notification of your accommodations needs as soon as possible. Please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. The need for accommodations must be documented by the appropriate office.

Student Code of Academic Integrity
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of
Academic Integrity as described in the UA General Catalog and according to the university policy on academic integrity as described on page 18 of "The University of Arizona Record 98-99 General Academic Manual". See: http://deanofstudents.arizona.edu/codeofacademicintegrity.

**Statement of Copyrighted materials:**
Students are advised that all lecture notes, lectures, study guides and other course materials disseminated by the instructor to the students, whether in class or online, are original materials and as such reflect intellectual property of the instructor or author of those works. All readings, study guides, lecture notes and handouts are intended for individual use by the student. Students may not distribute or reproduce these materials for commercial purposes without the express written consent of the instructor. Students who sell or distribute these materials for any use other than their own are in violation of the University’s Intellectual Property Policy (available at http://techlaunch.arizona.edu/university-arizona-intellectual-property-policy). Violations of the instructors copyright may result in course sanctions and violate the Code of Academic Integrity.

**Course Withdrawal:**
Students withdrawing from this course must notify me prior to nonattendance in online activities and must execute drop or withdrawal procedures in accordance with the UA General Catalog (see http://catalog.arizona.edu/ for official dates).

**Confidentiality of Student Records**
http://www.registrar.arizona.edu/ferpa/default.htm. Students should have read and be aware of federal regulations regarding the privacy of their academic records.

**Subject to Change Statement**
Information contained in the course syllabus may be subject to change with advance notice, as deemed appropriate by the instructor.

Maintained by College of Agriculture and Life Sciences, Office of Academic Programs, Forbes room 201, 621-3613.