



Oregon State University
**Professional and
Continuing Education**

Course Title: Plant Disease Diagnosis

Term Offered: Fall 2020

CEUs:

Instructor name: Neil Bell

Instructor email: neil.bell@oregonstate.edu

Instructor phone: 503-373-3765

Instructor bio: Neil Bell is the Community Horticulturist for the Oregon State University Extension Service in Marion County and Polk County. Since 2000 he has overseen the Community Horticulture program in Marion County and Polk County, which includes the Master Gardener program. The position requires instruction in the annual Master Gardener program, supervising Master Gardener volunteers as well as responding to enquiries from the public on a wide range of plant problems. His focus with curriculum development for the Master Gardener program have been presentations and written materials on pruning of ornamental plants and especially on diagnosis of plant problems.

Instructor name: Jay Pscheidt

Instructor email: pscheidtj@science.oregonstate.edu

Instructor phone: 541-737-3472

Instructor bio: I am a professor at Oregon State University as an Extension Plant Pathology Specialist. My principal duties are to lead a statewide extension program related to the diagnosis and management of diseases of all fruit, nut, and ornamental/nursery crops. Active programs include management of the hazelnut disease eastern filbert blight and testing the efficacy of many chemical compounds, biologicals and techniques for management of various tree fruit, nut and ornamental diseases important to Oregon's agricultural industries. I have co-edited several books including the Compendium of Nut Crop Diseases in Temperate Zones and the annual regional publication The Pacific Northwest Plant Disease Management Handbook (along with its supporting web site and FaceBook page)

Course Description

One of the objectives of the Plant Disease Diagnosis Online Course is to provide a framework that will enable and empower you to distinguish between these many potential sources of a problem and determine the real cause.

By the end of the course you will learn a systematic process to evaluate patterns of damage on the plant and what symptoms and signs are present.

Specifically, you'll learn:

- A systematic process for diagnosing plant problems
- Cultural and environmental causes of plant problems
- Soil quality and nutritional problems
- Symptoms and signs of disease and pest problems and other biotic causes of plant problems

Additionally, you will receive an overview of cultural and environmental causes of plant problems as well as biotic problems like insect pests and diseases. You'll become familiar with some resources that are available to assist with the diagnosis as well as what to do about the problem once it is diagnosed. Regardless of the plants you work with, this course will give you a framework to identify the issue and ways to solve plant problems.

Prerequisites

There are no specific prerequisites for this class, although a basic understanding of plant pathology and entomology is helpful.

Course Sequencing

Your course may be part of a series of courses that students must complete in a defined order. This section will describe how this course relates to other courses in the program and should be defined by your project manager.

Communication

Please post all course-related questions in the Help discussion thread so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. I will reply to course-related questions and email within 24-48 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

Continuing Education Units

Indicate units or completion type awarded, if any. In the case of CEUs, comment on the number of hours on average that students will interact with course materials. For example, "Over a period of five weeks, this course combines approximately 20 hours of instruction, online activities, and assignments for 2 CEUs."

Course Mode

The course content for each week will open on the Monday of that week at 12:00am. Assignments are due at 11:59pm on the Sunday at the end of each week. The Plant Problem Presentation is the end of course.

Canvas

This course will be delivered via Canvas where you will access the syllabus, learning materials, tutorials, discuss issues and/or display your projects. If you are having problems accessing Canvas [check your computer compatibility](#).

Technology Support

If you experience difficulties, errors, or problems in Canvas, please click the Help button located at the bottom of the left sidebar within your Canvas course. Tier 1 technical support is available to you 24 hours a day, 7 days a week.

If you have difficulties accessing your course in Canvas, please contact PACE at (541)737-4197 or email pace@oregonstate.edu. We are available Monday through Friday from 8 a.m. until 5 p.m. Pacific time.

Learning Resources

There are no specific learning resources than need to be acquired to participate in this course.

Measurable Learning Outcomes

After successful completion of this course, participants will be able to:

- Distinguish between random and uniform patterns of damage in plant populations as well as on individual plants.
- Distinguish environmental and cultural (abiotic) problems from those resulting from biotic organisms.
- Identify the differences between symptoms and signs of plant problems and signs produced by different biotic organisms.
- Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
- Apply a systematic approach to diagnose a plant problem based on available symptoms and signs.

Evaluation and Grading

All PACE courses are evaluated with the grade option of A-F. Students do have an option to take the course with a Pass/No Pass grading option. The student must request this change through the course instructor. Changes in the grading option must be made prior to the course end date.

Evaluation Scale

Your grade will be based on the following scale:

A = 93-100% A- = 90-92% B+ = 87-89% B = 83-86% B- = 80-82% C+ = 77-79%
 C = 73-76% C- = 70-72% D+ = 67-69% D = 63-66% D- = 60-62% F = < 60%

Evaluation of Learner Performance

- | | |
|--------------------------------------|------|
| • Discussions | 25% |
| • Plant Problem Presentation project | 50% |
| • Assignments | 25% |
| Total | 100% |

Course Outline

Week 1	The systematic process for diagnosing plant problems: Part A
Learning Outcomes	<ul style="list-style-type: none"> • Distinguish between random and uniform patterns of damage in plant populations as well as on individual plants. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Weekly Assignment • Sorting exercises • Plant Problem Presentation (due middle of Week 6)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours
Week 2	The systematic process for diagnosing plant problems: Part B

Learning Outcomes	<ul style="list-style-type: none"> • Identify the differences between symptoms and signs of plant problems and signs produced by different biotic organisms. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Weekly Assignment • Sorting exercises • Plant Problem Presentation (due middle of Week 6)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours
Week 3	Environmental, cultural and nutritional problems: Part A
Learning Outcomes	<ul style="list-style-type: none"> • Distinguish environmental and cultural (abiotic) problems from those resulting from biotic organisms. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Weekly Assignment • Plant Problem Presentation (due middle of Week 6)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours
Week 4	Environmental, cultural and nutritional problems: Part B
Learning Outcomes	<ul style="list-style-type: none"> • Distinguish environmental and cultural (abiotic) problems from those resulting from biotic organisms. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Weekly Assignment • Plant Problem Presentation (due middle of Week 6)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours
Week 5	Vertebrate pests, Insects and Diseases: Part A
Learning Outcomes	<ul style="list-style-type: none"> • Identify the differences between symptoms and signs of plant problems and signs produced by different biotic organisms. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Weekly Assignment • Plant Problem Presentation (due emiddle of Week 6)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours
Week 6	Vertebrate pests, Insects and Diseases: Part B
Learning Outcomes	<ul style="list-style-type: none"> • Identify the differences between symptoms and signs of plant problems and signs produced by different biotic organisms. • Utilize a diverse array of online resources to diagnose plant problems and provide appropriate recommendations to avoid or remediate them.

	<ul style="list-style-type: none"> • Apply a systematic approach to diagnose a plant problem based on available symptoms and signs.
Assignments	<ul style="list-style-type: none"> • Discussion forum • Plant Problem Presentation (due November 19th)
Method of Instruction	<ul style="list-style-type: none"> • Narrated lectures • Discussion forum • Case study • Website tours

Discussion:due weekly.

The Discussion each week features a different topic related to the weeks lecture materials. Since we usually have students from different geographic areas, this is an opportunity to interact and learn about issues specific to different regions. The Discussion is worth 5 points each week and the grading rubric can be found

Assignments: due weekly.

Assignments are part of the course curriculum in Weeks 1-5. As with the Discussion, the assignments are related to the lecture topics of that week. Assignments are worth 6 points each week and are due at the end of Sunday of each class week.

Plant Problem Presentation project: due Thursday, November 19th.

Each student will create a written presentation about a plant problem that you have observed in your area. The problem can be in any situation: your landscape, a public landscape, and agricultural or forestry situation, anything. You should include at least one photo of the problem in question. Use the systematic process for problem diagnosis to describe the problem and a probable cause for the problem. This is your chance to explore and expand your knowledge of the process of plant problem diagnosis using the techniques and examples described in this course. The grading of the problem presentation is as follows:

- Photo/diagram quality and grammar.....10 points
- Clarity and thoroughness of the problem description.....20 points
- Use of the systematic process to determine possible cause.....40 points
- Diagnosis (at least, a plausible diagnosis based on available evidence).....20 points

You can find my example of a Student Plant Problem Presentation under "Plant Presentation Examples" in the Modules tab on the course homepage, in addition to examples submitted by students in the past.

Statement Regarding Students with Disabilities

PACE seeks to accommodate the diverse experiences and learning styles of the students. Accessibility, accommodations are collaborative efforts between learners and PACE. If you require accommodations please email pace@oregonstate.edu.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#). In an academic community, students, faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online or in the classroom. Students, faculty, and staff have the responsibility to treat each other with

understanding, dignity and respect. Disruption of teaching, administration, research, and other institutional activities is prohibited by Oregon Administrative Rule 576-015-0015 (1) and (2) and is subject to sanctions under university policies, OSU Office of Student Conduct.

Academic Integrity

Students are expected to comply with all regulations pertaining to academic honesty, defined as: An intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work.

Conduct in this Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in a civil manner. Students will be expected to treat all others with the same respect, as they would want afforded themselves. Disrespectful behavior to others (such as harassing behavior, personal insults, inappropriate language) or disruptive behaviors in the course (such as persistent and unreasonable demands for time and attention both in and out of the classroom) is unacceptable.

Netiquette

In an online classroom, your primary means of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment. However, written communication also has its disadvantages. This includes a lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions and gestures. As a result, please recognize the possibility of miscommunication and compose your comments in a clear, positive, supportive, and constructive manner. Please be sure to be professional by demonstrating tolerance for diverse points of view and give each other the benefit of the doubt about any unclear intended meanings.

Evaluation

Course evaluation results are extremely important and are used to help improve this course and the learning experience of future students.

If you have feedback for improving the course, either during this session or for subsequent sessions, we would like to know. To provide direct feedback, please email pace@oregonstate.edu.