New Mexico State University

Department of Entomology, Plant Pathology, and Weed Science

Monday	1:30-2:20 pm| **Online**: Lectures
Monday	2:30-5:20 pm| **Online**: Lectures, Specimen Examination, Case Studies, and Assignments
Friday	1:30-2:20 pm| **Online**: Lectures

SYLLABUS FALL 2020 / EPWS 492-AGRO 492-HORT 492

Diagnosing Plant Disorders

Instructor: Dr. Soum Sanogo
Office: Department of Entomology, Plant Pathology, and Weed Science
Office Hours: by appointment
Email: ssanogo@nmsu.edu

TEXTBOOK: There is **NO REQUIRED** textbook for this course. The instructor will provide handouts as needed to complement lectures. Students are encouraged to consult pertinent materials in NMSU libraries.

COURSE DESCRIPTION: House plants, gardens, lawns, orchards, pastures, field crops, golf courses, and forests are subject to a wide array of disorders caused by several biotic and abiotic agents. This course will explore the nature of disorders in plants and their causal agents through a combination of lectures and laboratory sessions. Laboratory exercises will consist of examining images and videos of specimens collected in fields, greenhouse, gardens, etc...The class will be graded on exams, quizzes, and research presentations.

COURSE OBJECTIVES:

1. To describe the major types of plant disorders
2. To identify the biotic and abiotic agents causing plant disorders
3. To define the approaches used in diagnosing plant disorders

COURSE POLICIES AND PROCEDURES:

1. Exams- A total of three (3) exams will be given throughout the entire semester. All test materials will be based on Lectures, Handouts, Specimen Examination, Case Studies, and Assignments. Each exam will be assigned a total of 100 points.
2. Quizzes- Five (5) quizzes/assignments will be given throughout the semester. Each quiz/assignment will be worth 20 points, and will be based on lectures and handouts.
3. Research and Presentation. A list of research topics will be provided by the instructor. Each student will be given the opportunity to choose a research topic. Guidelines on conducting research on the selected topic will be provided by the instructor. Each student will give a 15-minute presentation on their selected research topic. Research and Presentation will be worth $100.
4. Attendance/Class participation. Regular attendance is required in the class. Students should take the steps to inform the instructor about their anticipated absence. Class participation in discussions is highly encouraged.

GRADING/GRADING SCALE:

Category	Maximum Points
Exams (3), 100 points each	300
Quizzes (5), 20 points each	100
Research and Presentation	100
TOTAL	500

A=440-500 [**A**$^{-}$ 440-460; **A** 461-480; **A**$^{+}$ 481-500]

B=380-439.9 [**B**$^{-}$ 380-400; **B** 401-420; **B**$^{+}$ 421-439.9]

C=320-379.9 [**C**$^{-}$ 320-340; **C** 341-360; **C**$^{+}$ 361-379.9]

D=260-319.9 [**D**$^{-}$ 260-280; **D** 281-300; **D**$^{+}$ 301-319.9]

F=259.9 and below

COURSE SCHEDULE*

Dates	Lecture and Laboratory/Field Trip Topics
August 24 (M)	*Introduction and Review of Course Objectives and Syllabus *General Considerations in Diagnosing Plant Disorders/Types of Plant Disorders Assignment#1 (Quiz#1)
August 28 (F)	*Types of Plant Disorders *Estimating the Extent of Plant Disorders Assignment#2 (Quiz#2)
August 31 (M)	Abiotic/Biotic Agents – General Considerations Guest Lecturer: Srijana Dura, Graduate Assistant, Plant and Environmental Sciences
September 4 (F)	Problems associated with herbicide application. Guest Lecturer: Dr. Leslie Beck, Weed Scientist, NMSU Extension Plant Science
September 7 (M)	**Labor Day – No Class**
September 11 (F)	Biotic Agents – Nematodes. Guest lecturer: Dr. Steve Thomas, Nematologist, Entomology-Plant Pathology-Weed Science
September 14 (M)	Abiotic Agents – Nutrient Deficiency and Toxicity Guest Lecturer: Dr. Geno Picchioni, Plant and Environmental Sciences Assignment#3 (Quiz#3)
September 18 (F)	Biotic Agents – General Considerations
September 21 (M)	Biotic Agents –Fungi and Bacteria Guest Lecturer: Phillip Lujan, NMSU Plant Diagnostic Clinic
September 25 (F)	Biotic Agents - Plant Viruses and Parasitic Flowering Plants Assignment#4 (Quiz#4)
September 28 (M)	Biotic Agents – Arthropods. Guest lecturer: Dr. Carol Sutherland, Entomologist, NMSU Extension Plant Science
October 2 (F)	Biotic Agents – Arthropods. Guest lecturer: Dr. Carol Sutherland, Entomologist, NMSU Extension Plant Science (Diagnosis Challenge)
October 5 (M)	**EXAM#1**
October 9 (F)	Approaches to Diagnosing Disorders – Interactions Among Multiple Agents and Impacts on Diagnosing Plant Disorders

October 12 (M)	Approaches to Diagnosing Disorders – Cases Studies Using Molecular Diagnostic Approaches. Dr. Jennifer Randall, Molecular Biologist, Entomology-Plant Pathology-Weed Science
October 16 (F)	Assignment#5 (Quiz#5)
October 19 (M)	Approaches to Diagnosing Plant Disorders – Dr. Willis Fedio, Director of Food Safety Lab at NMSU
October 23 (F)	Research Presentations
October 26 (M)	Research Presentations
October 30 (F)	Research Presentations
November 2 (M)	Research Presentations
November 6 (F)	Approaches to Diagnosing Disorders: An agronomist's perspectives Guest Lecturers: Tony Diaz and Ben Etcheverry, Mizkan Americas, Deming
November 9 (M)	***EXAM # 2***
November 13 (F)	Approaches to Diagnosing Disorders – Case Studies
November 16 (M)	Approaches to Diagnosing Disorders-Using Remote Sensing in Diagnosing Plant Health
November 20 (F)	Approaches to Diagnosing Disorders – Case Studies
November 23 (M) **November 27 (F)**	**Thanksgiving Break**
November 30 (M)	Diagnosing Plant Disorders-Review
December 4 (F)	Diagnosing Plant Disorders-Review
December 7 (M)	***EXAM # 3* (1:00 PM to 3:00 PM)**

* The instructor reserves the right to make unannounced changes in the course schedule.