Turfgrass Pest Science
(3.0 credits)

Normally Offered: Spring every other year (odd numbered years only). By Dr. Bruce B. Clarke (Extension Specialist in Turf Pathology), Dr. Albrecht Koppenhöfer (Extension Specialist in Turfgrass Entomology).

Pre-requisites and other registration restrictions:
01:119:101-102 or 01:119:115-116 General Biology or 01:119:103 Principles of Biology, and 11:550:238 (Landscape Management and Maintenance) or 11:776:304 (Turfgrass Management), or permission of instructor.

Format: Two 80-minute lectures plus 3-hour laboratory

Description:
This is an upper-level course designed for juniors and seniors interested in plant pathology, entomology, integrated pest management, landscape management, and turfgrass science. Turfgrass Pest Science is a recognized elective within the Plant Science Curriculum but may also be taken by non-Plant Science majors.

The objective of this course is to help students gain a thorough understanding of the biology, etiology, and management of major turfgrass pests including fungal, bacterial, and viral pathogens as well as insects, nematodes, vertebrates, and weeds, and to have them apply this knowledge to solve real world problems in turfgrass pest management. It uses lectures, hands-on laboratories, case studies, interactive discussions, and a field trip to teach principles of turfgrass pathology, ecology, entomology and weed science with an emphasis on integrated pest management. The course focuses on critical thinking rather than passive learning, and encourages students to share their experiences in classroom discussions.

Learning Goals:
• Be aware of the general principles of turfgrass entomology and pathology as well as the different types of detrimental and beneficial organisms that typically occur in a turfgrass ecosystem.
• Be able to identify the major pests and diseases of turfgrass and the symptoms and damage they cause.
• Understand the concept of Integrated Pest Management (including cultural, biological, and chemical controls) and how it applies to turfgrass systems.

Measures of Assessment:
• Quizzes are given every few weeks and a final exam to measure student learning.
• An oral report will be assigned as part of a case studies project in entomology and pathology to assess mastery of subject matter in turfgrass pest management.
• A term paper is required and may be selected from a list of suggested topics.

Course Website:
Website available and is active during the semester.

Topics:
• Covers subjects such as Intro to Turfgrasses, Turfgrass ID / Resistant Grasses, Integrated Pest Management, IPM & Chemical Pesticide Fundamentals, Leaf & Stem Chewing Pests, Insect Diagnostics, Root-Infesting Pests , Stem/crown burrowing insects, Biocontrol & Nematode Methodology, Weed Management, Fundamentals of Plant Pathology & Disease Management, Disease Diagnostics, Fungicide Resistance Management, Microscope ID of Turf Pathogens, Root Diseases, Foliar Diseases, and New and Emerging Diseases / Biological Control.
• Instructors will use lectures, hands on demonstrations, interactive discussions, case studies, to teach the fundamentals of turfgrass pest science. This course focuses on critical thinking rather than passive learning to solve real world problems commonly confronted by turf and landscape managers in the field. Students are encouraged to share their experiences in classroom discussions.

Required and Recommended Course materials:
Most lectures are power point presentations that will be made available to students to review and study. Hand-outs will supplement classroom discussions.

Required textbooks:


Policies for Exams, Assignments, Attendance, and Grading
Grade Distribution:
Mid-Term Exam (Entomology Section)  25%

Term paper  15%
Quizzes (6)  25%
Lab  10%
Final Exam (Pathology section)  25%
Borderline final grades are heavily influenced by student attendance and participation