

ENTOMOLOGY AND PLANT PATHOLOGY

The mission for the Department of Entomology and Plant Pathology is to discover, develop and disseminate science-based knowledge concerning arthropods and plant pathogens. Entomology is the science and study of insects and related arthropods. Plant Pathology is the science and study of bacteria, viruses, fungi, and nematodes that cause diseases in plants. A strong academic background in the physical and biological sciences is essential for success in both disciplines. Research and education programs range from basic studies of cellular, physiological, and genetic aspects to broad ecological and population studies and focus on the development of practical pest management strategies.

The undergraduate program in entomology leads to the BS in Entomology and offers students opportunities to explore the diversity of nature through the study of arthropods and their interactions with plants, animals, and human culture. Specialized course work in entomology includes insect identification, biology, ecology, physiology, biochemistry, population dynamics, medical and veterinary entomology, and insect pest management.

Plant pathology as a discipline encompasses the science required to understand the causes of plant diseases as well as prevention and controlling diseases. Undergraduate level courses are available in Plant Pathology and are valuable additions to programs in entomology, horticulture, agronomy, ecology, and botany. Specialized course work in plant pathology includes pathogen identification, genetics, host pathogen physiology, biotechnology, molecular genetics, and disease management.

There are many, and diverse, career opportunities for graduates of these programs, including positions involved with pest management in crops and livestock production, stored products such as grains and processed foods and protecting structural systems such as houses from termites and agricultural biotechnology. Undergraduate options in entomology include insect biology and ecology, bioforensics, and pre-medical/pre-veterinary sciences. Undergraduates of the entomology program are prepared to enter graduate programs in several disciplines, including entomology and plant pathology and have been successful in seeking and receiving professional degrees in medical and veterinary science programs. Others gain employment with private industry, research laboratories or county, state, or federal agencies. Some develop their own businesses as consultants and/or entrepreneurs.

Minor in Entomology

This minor is designed to provide students with a basic understanding of insect biology, ecology, and classification. Students are also instructed on applications of Entomology related to ecosystem function, conservation, and agricultural impacts. Directed electives in this major also allow students to explore aspects of insect behavior, aquatic entomology, specific applications of entomology in horticulture, forestry, agronomy, structural, urban, and stored product scenarios. Requirements of the minor include 15 hours of core courses.

Minor in Pest Management

This minor is designed to introduce students to pests including insects, plant pathogens and weeds that damage, reduce the quality, or increase production costs of agricultural crops or livestock, turf or ornamental plants, and trees. Integrated management methods for these pests are presented including cultural, biological, and chemical control strategies.

The minor is intended for students majoring in horticulture, plant and soil science, natural resource ecology and management, animal science, environmental science, entomology, or other majors in biological sciences. Requirements of the minor include 18 hours with 9-12 hours from core courses.