

Insects & Disease in Forest Resource Management

Ent / Plant Path / FEM 500: Insects & Disease in Forest Resource Management

Course Description: The objective of this course is to provide students with a biological basis for recognizing, diagnosing, and managing insects and pathogens affecting multiple uses of forest resources. This course describes the roles insects and pathogens play in natural ecosystem processes such as gap formation, nutrient cycling, and succession, as well as the challenges these biotic stress agents pose to sustainable management. These challenges include tradeoffs among multiple values, economic and environmental consequences of various pest management approaches, and natural resource issues such as biological invasions. The general principles of plant pathology, entomology, and pest management are introduced, followed by descriptions of the specific insects and disease agents involved. This course is structured to provide multiple modalities of learning: Lectures emphasize the integration of life history information with available management options. Laboratory sessions emphasize recognition of insects, microorganisms, and host tree symptoms. Field trips are intended to provide first-hand experience with insect and disease activities and consequent problems under actual growing conditions.

What you will be able to do after completing this course:

1. Know the major insects & pathogens affecting forest resources, and biology's
2. Understand their roles in basic ecosystem processes and biodiversity
3. Be able to recognize these agents, and the various signs & symptoms that signify their presence
4. Be equipped with management options

Approach

Team Taught

Integrate insects & pathogens throughout semester

Topics organized based on plant tissue affected

Similarities in symptoms, ecology, and management tactics

Integrate three teaching modalities: lecture, lab, field

Lecture: Present material: Case history approach

Lecture outlines:

Plant pathology- Handouts before each lecture

Entomology- Available Online

Power Point Presentations

Ent Power Point Presentations are available on-line

Note: Power Point presentations illustrate the concepts covered in lecture. They are not a substitute for lectures, nor do they directly overlap lectures. Their purpose is to provide examples so that the materials covered in lecture are easier to visualize

Lecture exams are based on material covered in class. Background readings are intended to assist you in understanding lecture material

Lab: See organisms and damage discussed in lecture

Usually rotating station format

Take detailed notes: Lab notebook

Note: There are no Make-up or comprehensive review labs:

Field: See organisms and damage discussed in natural context

Turn in notes 1 week after each field trip

Grading

Lecture Exams: 3 each of 15%: 45%

Lab Exams: 2 each of 15%: 30%

Term Paper / Project : 20%

Field Reports: 2 each of 2.5%: 5%

Office visits Schedule by email

Texts None required; Background reading materials on reserve at Steenbock Library