FOR4624C/6934 Forest Health Management

1 Course Overview

Course description:
The study of pests, diseases, and other disorders affecting trees and forests, emphasizing the ecological and economic roles of the biotic agents and the abiotic factors involved, the investigative process of diagnosing and identifying those agents, and the methods and principles of maintaining forest and tree health through integrated management.

- 3 Credits
- Spring 2025
- Format: In-person classes, labs, and field trips meeting Monday (10:40am-12:35pm) and Thursdays (9:35am-12:35pm).
- 219 Newins-Ziegler Hall (except when otherwise announced).

Prerequisites: N/A

Instructor: Jeffrey Eickwort, State Forest Entomologist & Adjunct Professor

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: Available Mondays from 9:30am-10:30am in the Forest Pathology office (212 NZ). Other meeting times (in person or by Zoom) are available by arrangement.
- Mobile phone (texting is fine): 352-792-5357

Teaching Assistant: This semester there is no official teaching assistant, but we will be receiving assistance and having guest lectures from multiple people, potentially including:

- Jiri Hulcr, Associate Professor of Forest Entomology, UF-SFRC
- Nicolas Anger, Postdoctoral Associate, UF Forest Pathology Lab
- Claudia Paez, Pathologist, FDACS Division of Plant Industry - Plant Pathology
- Hector Urbina, Pathologist, FDACS Division of Plant Industry - Plant Pathology
- Brianna Benitez, Biologist, Florida Forest Service – Forest Health Section

Textbook(s) and/or readings: There is no teaching text available to support this course. However, the following books will serve as reference texts in support of some portions of the lecture materials. While these books are not teaching texts, and are not required for the course, they are excellent professional references and as such they should be viewed as an investment in your personal library as well as items in support of this course.

Sinclair, Lyon, and Johnson. 2005. Diseases of Trees and Shrubs. 2nd Ed., Cornell University Press. Johnson and Lyon. 1988. Insects that Feed on Trees and Shrubs. 2nd Ed., Cornell University Press.

Links and references to other useful resources will be provided on the Canvas website as appropriate to each section of the course. Please become familiar with the Canvas website as we will use it often to post assignments, readings, lecture notes and class announcements.

2   Learning Outcomes

By the end of this course, each student will be able to:
- Understand fundamental concepts of forest and tree health, and comprehend how pests and pathogens are integral to forest ecology.
- Recognize key signs and symptoms of major groups (biotic, abiotic) of causal agents of disease in trees.
- Recognize signs and symptoms used to diagnose insect pest damage to
- Understand and follow methods and procedures used to collect and analyze samples in order to identify and diagnose tree pests and pathogens.
- Utilize knowledge gained to identify and develop management recommendations for key tree pest and disease issues in the region.

3   Course Logistics

A schedule for the topics to be covered will be given at the first day of class. We will not strictly adhere to this schedule, rather, we will use it as a general list of topics to be covered and may spend more time on certain topics than others.

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Class meeting times Online courses must include time zone.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.
- Installation of proctoring software may be required and will be provided if so.

3.1   Description of Assessments & Activities

Written Tests: Two exams will be given, a midterm exam and a final exam. The exams will include factual, conceptual, and problem-solving components. Laboratory and field trip material will be included in each exam. Each exam will be worth 100 points. (200 points total)

Lab Practicals: As part of the laboratory portion, you will be tested on your ability to identify/diagnose pest and disease issues based on physical samples and other clues provided. There will be one practical exam each near the end of the entomology and pathology portions of the class. (25 points each, 50 points total)

Sick Tree Investigation: This assignment will involve searching for, photographing, and diagnosing a sick tree, and providing a written explanation and management recommendation. (35 points)

Insect Collection: Each student will collect, identify (at the Order level), pin or preserve, and label a small insect collection during the entomology portion of the class. Opportunities for collecting insects, as well as time and materials for curating the collections, will be provided during scheduled lab times. Graduate students will have extra requirements, which will be explained at the beginning of the Entomology unit. (35 points)

Pest Alert Assignment (GRAD STUDENTS ONLY): This will involve researching and writing an outreach article for a forest pest or pathogen that is not yet present in Florida, but may arrive here. Further details to be provided on the Canvas page. (25 points)

Lecture Quizzes and Lab Assignments: There will be three short-answer quizzes based on the lecture material (not announced in advance), and two of the labs will have written assignments associated with them. (5 points each, 25 points total).

Participation will be worth 10 points of the total grade. Full points will be awarded to students who show regular attendance to labs and lectures, and who engage and participate normally in discussions and activities.

3.2 Grades & Grading Scale

Written tests	200 points
Lab practicals	50 points
Sick tree investigation	35 points
Insect collection	35 points
Pest alert assignment (grad students only)	25 points
Lecture quizzes & lab assignments	25 points
TOTAL	**345 points (370 points for grad students)**

Grading Scale (%)
A   100% to 94%
A- 93.99% to 90%
B+ 89.99% to 87%
B   86.99% to 84%
B- 83.99% to 80%
C+ 79.99% to 77%
C   76.99% to 74%
C- 73.99% to 70%
D+ 69.99% to 67%
D   66.99% to 64%
D- 63.99% to 61%
E   60.99% to 0%

For information on current UF policies for assigning grade points, see
Ugrad https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
Grad https://catalog.ufl.edu/graduate/regulations/#text

4 Learning Content

Schedule			
Week	**Date**	**Topic**	**Assignment Due**
1	1/13	**Monday:** Intro to class; Forest Health concepts and investigations; Tree anatomy refresher	
	1/16	**Thursday:** Intro to Forest Pathology; sick tree walk (outdoors)	
2	1/20	**Monday – No Class (MLK Day)**	
	1/23	**Thursday:** Intro to Fungi, Fungal culture & mushroom ID lab	

3	1/27 1/30	**Monday:** Exotic species and Forest Health; Control methods and IPM. **Thursday:** DPI Plant Pathology Diagnostics Lab Field Trip	
4	2/3 2/6	**Monday:** Wood decay and CODIT; stem rots and root diseases **Thursday:** Stem decay and root rot field trip: Natural Area Teaching Laboratory (NATL).	
5	2/10 2/13	**Monday:** Cankers, twig/shoot blights, and foliar diseases. **Thursday:** Pine Disease field trip (Austin Cary)	**Sick Tree Investigation – Initial Selection & Pictures Due 2/14**
6	2/17 2/20	**Monday:** Vascular diseases, Tree Risk Assessment **Thursday:** Laurel wilt & TRA field trip	**TRA lab write-up due 2/21.**
7	2/24 2/27	**Monday: Midterm** **Thursday: Pathology Lab Practical**	**Sick Tree Investigation – assignment due 2/28.**
8	3/3 3/6	**Monday:** Intro to forest entomology, insect basics **Thursday:** Insect collecting field trip - Natural Area Teaching Laboratory (NATL).	
9	3/10 3/13	**Monday:** Bark Beetles **Thursday:** Bark beetles field trip	
10	3/17 3/20	**No Class All Week – Spring Break**	
11	3/24 3/27	**Monday:** Defoliators, sap-suckers **Thursday:** Defoliators field trip	
12	3/31 4/3	**Monday:** Woodborers, shoot and twig borers **Thursday:** Woodborer trapping, rearing, & extraction. Collection work day.	
13	4/7 4/10	**Monday:** Gallformers and root-feeders. **Thursday:** Forest Health Scavenger Hunt field trip (Austin Cary)	
14	4/14 4/17	**Monday:** Government agencies, programs, and policies related to forest health; Forest health and climate change. **Thursday: Entomology Lab Practical,** insect collection work time.	**4/14 – Scavenger hunt lab write-up due** **4/17 – Insect Collections Due, return all equipment!**

15	4/21	**Monday:** Wrap up and review.	
	4/24	**Thursday – "Reading Day," no class/lab**	
16	4/28	**Final Exams Week – No Class/Lab**	
	5/1		

5   Policies and Requirements

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

5.1   Attendance, Late Submissions & Make-up Requests

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

5.2   Communication Courtesy and Professionalism

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

5.3   Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: https://gatorevals.aa.ufl.edu/students/.

Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/.

5.4 Academic Honesty Policy

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://policy.ufl.edu/regulation/4-040/

5.5 Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads, *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

5.6 Privacy Statement

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

5.7 In-class recordings

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

5.8 Services for Students with Disabilities:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" webpage on the Disability Resource Center site https://disability.ufl.edu/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

5.9 Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

6 Campus Helping Resources

6.1 Whole Gator App

The Whole Gator and website and app connects UF students with resources dedicated to supporting overall health and well-being. In addition to many of the resources below it also has strategies to practice self-care. https://one.uf.edu/whole-gator/topics

6.2 Health and Wellness

- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non- crisis services.
- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.
- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273- 4450.
- Student Success Initiative, http://studentsuccess.ufl.edu

6.3 Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center: Reitz Union Suite 1300, 352-392- 1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.
- Teaching Center: 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-

7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

6.4 Student Complaints

- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.
- Residential Course: https://www.ombuds.ufl.edu/complaint-portal/
- Online Course: https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint

7 Reading List

- Readings and other resources relevant to the material will be posted to the course Canvas page throughout the semester.