

Forest Health Management - FOR 4624C/FOR 6934

1 Course Overview

Course description:

This course explores the nexus of biotic agents, trees, edaphic factors and human interventions to provide a framework for basic tree health management. We will begin by conceptually focusing on forest health ecology, symbioses and tree function and then use categories of agents of damage such as abiotic factors, insects and pathogens, using case studies to exemplify how management is implemented in various commercial, conservation and urban forestry applications.

- 3 Credits
- Spring, 2023
- Face-to-face
- Mondays, 10:40 a.m.-12:35 p.m., Thursdays, 9:35-12:35 a.m. **Attendance in lecture and lab is essential.** You are here to learn; my job is to facilitate that process. Don't miss these or you are sure to fail!
- 219 NZ Hall (unless otherwise noted). Occasionally we will meet earlier or go later to facilitate field trips. These class hours will variously be used for lecture and laboratory elements, the specific content of which will vary according to need for field trips, conventional indoor labs, tests, and lectures. Trips requiring appropriate field gear will be announced in advance. The duration of field trips can vary; prior notice of anticipated duration will be provided.

Course Prerequisites: none

Instructor: J.A. Smith, Professor; 212 Newins-Ziegler Hall; 846-0843 jasons@ufl.edu and J. Hulcr, Associate Professor, hulcr@ufl.edu

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: in-person or virtual (Zoom) office hours scheduled dates and times

Co-instructor or Teaching Assistant: This semester there is no official teaching assistant, but we will have frequent guest lecturers (Jeff Eickwort, Claudia Paez..)

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: available by email or phone; office visits available by appointment. If you have questions, see me at any time.

Textbook(s) and/or readings:

Supplies: You may find a three-ring, loose-leaf notebook to be useful in aiding organization of handouts and notes.

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.

Texts: 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 particular 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.

Reading assignments will be given from materials distributed in class and posted on the Canvas website for the class. 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:

- 1. Understand the meaning of forest health, how it differs from tree health and comprehend how pests and pathogens are integral to forest ecology.
- 2. Recognize key signs and symptoms of major groups (biotic, abiotic) of causal agents of disease in trees.
- 3. Recognize signs and symptoms used to diagnose insect pest damage to trees.
- 4. Utilize knowledge gained to develop management recommendations for key tree pest and disease issues in the region.

3 Course Logistics

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

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. [What browser am I using?](#)
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

3.1 Description of Assessments & Activities

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 comprise ~29% of the course grade (100 points each).

Entomology Quiz: There will be a separate entomology quiz that will evaluate your learning for that portion of the course. This will be worth 50 points (~15% of the course grade).

'Assigned' Favorite Non-Native Invasive Paper and Presentation:

To be assigned and detailed approximately mid-way through the term. The paper and presentation will comprise ~18% of the course grade (10% each). (60 points total)

Landscape Level Forest Health Risk Assignment: This will involve using the USDA-FS Forest Health Portal Website to provide a synopsis of forest health conditions and problems in a state. Exact details TBA. Worth ~3% of course grade **FOR GRADUATE STUDENTS ONLY**. (10 points total)

Sick Tree Scavenger Hunt And Diagnosis: This assignment will involve searching for, photographing and providing a diagnosis for sick trees and will account for ~9% of the class grade. (30 points total)

Participation:

Participation will comprise 3% of the course grade. Participation points are earned according to attention and constructive, positive involvement in the course. Sporadic pop (~5) quizzes will be given during the semester and will contribute to this portion of the grade. There are no opportunities for make-ups on these (10 points total; Undergraduate Students Only).

350 total points in the class

There is no extra credit (I don't have time for that) and no study guide (though certainly, you are encouraged to make your own!).

3.2 Grades & Grading Scale

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

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%

4 Learning Content

Important Dates:

2 March: **Midterm Exam**

23 February: **Sick Tree Visitation Assignment due**

13 April: **Statewide Forest Health Monitoring Project due (GRADUATE STUDENTS)**

23 March: **Entomology Quiz**

24 April: **Invasive Paper Due**

24 April: **Invasive Presentations**

1 May, 3:00-5:00 p.m.: **Final Exam**

Tentative Course Schedule (subject to change)

Field trip (i.e. plan on it), lab exercise (cannot be made up)

Date	Topic	Assignment Due?	Reading
January 9	Intro to class and Forest Health; Refresher on tree anatomy and function (Smith)		
January 12	How to recognize sick trees - Signs and symptoms of		Kolb et al., 1994 Barnard, 2002
January 19	Introduction to fungi (Smith/Paez/Deitz) - LAB		http://www.forestpathology.org/concepts.html
January 23	No class – MLK Day.		Boddy et al., 2010 Kupferschmidt, 2012

January 26	Laboratory exercise on fungi Koch's Postulates Lab 1		<u>Watch TED talk on "6 ways fungi save the world" by Paul Stamets</u>
January 30	Root diseases of trees		TBA
February 2	Root and Stem diseases of trees field trip - ACF		TBA
February 6	Foliar diseases		TBA
February 9	Root rots, Foliar diseases of trees & shoot blights LAB/ Koch's Postulates #2		
February 13	Cankers and stem rots		
February 16	Field trip to Citra		
February 20	<u>Vascular wilts</u>		
February 23	Spore trapping/Tree disease diagnostics lab demonstration LAB	Sick tree visitation assignment due	
February 27	**Midterm Exam**		
March 2	Insect pests of forests: an introduction (Hulcr)		
March 6	Insect pests continued (Hulcr)		TBA
March 9	Bark and Ambrosia Beetles LAB/field trip (Hulcr)		TBA
March 20	Defoliators and other insect pests (Hulcr)		TBA
March 23	Insect pest identification LAB (Hulcr)	Entomology Quiz	TBA
March 27	SPB Prevention Program (Eickwort)		TBA
March 30	Introduction to exotic species and forest health (Smith)		

April 3	Demonstration of laurel wilt treatment/ Hazard tree assessment lab (Spence)		Hulme, 2009; Lovett et al., 2006
April 6	Non-native invasives LAB/Field Trip		Ploetz et al., 2013; Mayfield et al, 2008
April 10	Nursery pests and diseases (Barnard); Genetic solutions to forest health problems (Quesada)		Anagnostakis, 1987; Brasier et al., 2001; Schoettle et al., 2007
April 13	Citra Field Trip	Statewide forest health monitoring project due	
April 17	Melampsorium rust and Relampago Blight Field Trip		
April 20	Final Field Trip (Torreya State Park ?)		
April 24	Invasive Presentations	Invasive Pest/Pathogen Paper Due	
1 May, 3:00-5:00	**Final Exam**		

4.1 Readings

See table above.

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 Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx>

<https://gradcatalog.ufl.edu/graduate/regulations/>

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues **MUST** be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You **MUST** e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

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 approximately the mid-point of the semester, the School of Forest, Fisheries, & Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

At the end of the semester, 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

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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."*

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). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct or appropriate personnel. 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:

<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

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.

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website:

<http://multicultural.ufl.edu>.

5.6 Services for Students with Disabilities:

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. 0001 Reid Hall, 352-392-8565, <http://www.disability.ufl.edu>

5.7 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

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | <http://elearning.ufl.edu>
- Library Help Desk support <http://cms.uflib.ufl.edu/ask>
- SFFGS Academic Hub <https://ufl.instructure.com/courses/303721>

6.1 Student Life, Wellness, and Counseling Help

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources <http://www.counseling.ufl.edu/cwc/>
- U Matter, We Care <http://www.umatter.ufl.edu/>
- Career Connections Center <http://career.ufl.edu/>
- Other resources are available at <http://www.distance.ufl.edu/getting-help> for online students.

6.2 Student Complaint Process

The School of Forest, Fisheries, & Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also [submit feedback anytime](#).

If you have a more urgent concern, your first point of contact should be the Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- <https://distance.ufl.edu/getting-help/>
- <https://registrar.ufl.edu/complaint.html>