

**Special Topics – Bark and Ambrosia Beetles**  
**ENY 6934 / FOR 6934**

Credits: 3

Meeting days and times: May 8-13, 2014; 9AM-5PM each day

prerequisites: none

Instructor: Jiri Hulcr

Newins Ziegler building, room 317

office phone: 352-273-0299

email: [hulcr@ufl.edu](mailto:hulcr@ufl.edu)

office hours: Tuesdays 9:30 – 11:30

**Course description:** A comprehensive review of bark and ambrosia beetles (Coleoptera: Curculionidae: Scolytinae and Platypodinae), including global diversity, Florida's fauna, classification, field and lab diagnostics, morphology, overview of major pests globally and locally, types of damage, relationships with fungi and host trees, management strategies, legal context, field demonstration.

Schedule:

May 8

morning:

- o What are (and what are not) bark and ambrosia beetles
- o General bark beetle morphology
- o Quick overview of non-scolytine wood boring pests

afternoon:

Field trip to the UF Austin Cary Forest, to an outbreak of pine bark beetles.

- o demonstration and discussion of management approaches
  - o bark beetle trapping
  - o manual techniques for bark beetle collecting
  - o demonstration of submission of samples for expert diagnosis
- 4:30 – exam

May 9

morning:

- o Economically important species in Florida
- o The federal Southern pine beetle prevention program
- o Bark beetle management in the South East – cultural, mechanical and chemical approaches, the importance of prevention
- o Ambrosia beetles in urban trees

afternoon:

hands-on session in microscope lab: basic beetle identification, damage diagnosis  
4:30 – exam

May 10

morning:

- o Bark beetle tribes
- o Invasive species in the US
- o Globally common Xyleborini

- o On-line resources for bark beetle identification

afternoon:

- o Important bark beetles of the Western U.S.
  - o Biology and ecology of the coffee berry borer
- The rest of the afternoon: supervised hands-on identification lab.  
4:30 – exam

May 11

morning:

- o Ips and Dendroctonus
- o Scolytus
- o Bark beetles of Europe - species, biology, symptoms, surveillance
- o Platypodinae: invasive species, New World genera

afternoon: split in two groups, each participant's preference:

- A) Field group: a trip to a site affected by the redbay ambrosia beetle.
    - o demonstration of destruction by invasive wood boring beetles
    - o demonstration of collecting techniques
    - o diagnostics of external beetle signs
    - o demonstration of non-bark beetles
  - B) Lab group: more supervised identification; reference collections and keys available.
- 4:30 – exam

May 12

morning:

- o Molecular identification of bark beetles
- o Common hardwood species of the Southeast
- o Bark beetles of South America: are they coming?
- o Australian fauna, eusocial platypodines

afternoon:

- o Bark beetle acoustics
  - o Ambrosia beetle sociality and lab breeding
- The rest of the afternoon: Visit to the insect collection at the FDACS Division of Plant Industry, one of the largest depositories of scolytine beetles in the U.S. Participants will become familiar with the extent of bark beetle diversity, with entomology collection curation, and with the role of the DPI.  
4:30 – exam

May 13

- A whole-day supervised lab session.
- o individual topics of interest
  - o practicing identification
  - o finalizing personal reference collections
- 4:30 – exam

**Venue:** Steinmetz Hall room 2218, Polycom connection available

**Course learning objectives:** Students who will have completed this course will be able to:

1. Identify major groups and species of bark and ambrosia beetles, including field diagnosis.
2. Identify local pests, recommend management strategies.
3. Explain broader context of bark beetles in the forest and in the environment, including their role in healthy forests, their economic and environmental impacts, and legal issues with large-scale management.

**Critical dates:** Each student needs to attend all days.

**Required reading:** No textbook required; identification keys will be provided.

**Grading:** Grading will be based on the number of points accumulated over daily exams (10 points each). Each student will be able to obtain up to 60 points.

A 93-100% of 60 points	B- 80-82%	D+ 67-69%
A- 90-92%	C+ 77-79%	D 63-66%
B+ 87-89%	C 73-76%	D- 60-62%
B 83-86%	C- 70-72%	E <60%

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

### **Attendance and Make-Up Work**

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>.

### **Online Course 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. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

### **Academic Honesty**

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 to 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>.

### **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.

### **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, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

### **Campus Helping Resources**

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.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)*
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching
- *Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)*

