WOODY PLANT PHYSIOLOGY  
HOS 6535 - 2 credits

Instructor: Rebecca L. Darnell  
1131 Fifield Hall  
392-4711 x 224  
e-mail: rld@ufl.edu

Course Description:

A "topics" course, combining lectures and student discussions of literature, to give an in-depth view of selected areas in woody plant physiology.

Course Objectives:

To provide students with a knowledge base in selected areas of woody plant physiology; to provide an opportunity for students to critically analyze research problems and approaches.

Course Format:

Introductory lectures will be given on the selected topics. Lectures will be followed by a discussion day, where students will present and discuss previously assigned papers dealing with that topic. Specific questions on each paper will be handed out with the paper. These questions must be answered and turned in on the discussion day.

Course Grading:

Grading will be based on:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Mid-term</td>
<td>30%</td>
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<td>Final exam</td>
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<td>Discussion questions</td>
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<td>Class discussion</td>
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Prerequisites:

BOT 3503 or equivalent Plant Physiology course.
Text: There is no text for this course. Reading lists for each topic will be handed out.

ACADEMIC HONESTY: As a result of completing the registration form at the University of Florida, every student has signed the following statement: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

UNIVERSITY SUPPORT SERVICES: Resources are available on campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling.
2. Student Mental Health, Student Health Care Center, 392-1171, personal counseling.
3. Sexual Assault Recovery Services, Student Health Care Center, 392-1161.
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

SOFTWARE USE: All faculty, staff, and students of the University are required and expected to obey the laws and legal arguments 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.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.
Topics (tentative outline)

I. Dormancy/chilling
   A. Types of dormancy
   B. Chilling requirement
      1. modification of CR
      2. chilling models
   C. Dormancy onset and release
      1. hormonal changes
      2. source-sink changes
      3. plasmodesmatal changes
      4. oxidative stress
   D. Gene expression
   E. Growing degree (heat) units
   F. Chemical-induced dormancy breaking

II. Source-sink relations
   A. Carbohydrate partitioning
      1. Source allocation and regulation
      2. Sink allocation and regulation
   B. Source-sink effects on photosynthesis
   C. Seasonal carbohydrate partitioning
   D. Nitrogen uptake and partitioning
   E. Seasonal nitrogen partitioning
   F. Sink competition

III. Light relations in the tree canopy
   A. Phytochrome, photomorphogenesis, photoperiodism
   B. Light intensity vs light quality
      1. vegetative responses
      2. reproductive responses
   C. Modification of light environment

IV. Water relations (whole-plant)
   A. Water use efficiency
   B. Drought
   C. Flooding
   D. Regulated deficit irrigation