FOR 219-020: Dendrology Lab, Spring 2019

FOR 219-021: Dendrology Lab, Spring 2019

Course Details

Instructor: Dr. Jeremy Stovall         Phone: (936) 468-2127
Email: stovalljp@sfasu.edu
Office: 214 Forestry                   Office Hours: By appointment

Teaching Assistants: Ms. Cassie Phillips Email: phillipscl4@jacks.sfasu.edu
   Mr. Niyi Ajala            Email: ajalaoo@jacks.sfasu.edu
   Mrs. Cassey Edwards           Email: edwardscl2@jacks.sfasu.edu

Generally I maintain an open door policy, and keep a schedule posted by my door. My desk is in the back room, so come on in if the door is open. Please feel free to stop by my office whenever. If you are coming to campus specifically to see me it would be best to make an appointment by email. I check email frequently and reply as soon as possible, within 24 hours M - F at most. Please contact me (not the TAs) regarding concerns about your grade or absences.

Class: 9:00am – 9:50am Monday and Wednesday, Forestry 222
Lab: 2:00pm – 4:50pm Tuesday, Forestry 221; or
   1:00pm – 3:50pm Wednesday, Forestry 222; (whichever section you’re registered for)

Course Description

FOR 219. Dendrology (FORE 1314) - 3 semester hours, 2 hours lecture and 3 hours lab per week. Identification, distribution and silvical characteristics of angiosperms and gymnosperms. Required field trips. Course fee required.

Program Learning Outcomes

1. Demonstrate understanding and competency of forest ecology and biology;
2. Demonstrate understanding and competency in the measurement of forest resources;
3. Demonstrate understanding and competency in managing forest resources;
4. Demonstrate understanding and competency of forest resource policy, economics, and administration.
5. Demonstrate understanding and competency in oral and written communication skills.

*Items #1 - #4 above are required by the Society of American Foresters, the program’s accrediting agency.
*This is not a General Education Core Course

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 219</td>
<td>I</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>I</td>
</tr>
</tbody>
</table>

B – Basic – course supports Program Learning Outcome by providing students with fundamental information, definitions, concepts, and lab activities relative to the expected outcomes.
I – Intermediate – course supports Program Learning Outcome by providing students with topic-specific information, concepts, applications, and lab activities that increase the students’ skills in making tactical implementation decisions relative to the expected outcomes.
Student Learning Outcomes

Upon the completion of this course, successful students will:

1. Identify common native and introduced woody plant species of east Texas in the field year-round (PLO 1).
2. Describe important tree species from North America and around the world (PLO 1, 3, 4).
3. Identify unknown woody specimens using textbooks, field guides, and electronic resources (PLO 1, 2).
4. Explain how morphology (leaf, twig, flower, fruit, bark, form) varies among & within species (PLO 1, 2).
5. Organize species based on morphology or phylogeny (PLO 1).
6. Produce and deliver an organized and engaging public presentation (PLO 5).

Text and Materials

- **RECOMMENDED**: Fountain et al. *Winter Key to Deciduous Woody Plants of East Texas* (ISBN 9780934115049) *This text is cheapest if you buy it from the Forestry front office.
- **REQUIRED**: A clip board or binder with capacity to store material out of sight.
- A hand lens for magnifying features. Lenses similar to this one work well in the field.
- A small sharp knife.
- A hard hat.
- Appropriate clothing and boots for the field.

Course Website

Dendrology will be managed through the course website, which can be found at:

http://forestry.sfasu.edu/faculty/stovall/dendrology/ (it also comes up first if you google ‘SFA dendro’).

Lecture notes, course documents, lab documents, and grades will all be available on the site. Additionally, there are numerous study tools available, including image quizzes, scientific name quizzes, photographs of the lab species, links to other useful dendrology resources, past exams, and species lists for exams. We'll review these tools in class.

Course Requirements

**In Class Exams (Midterms and Final Exam)**: Will be cumulative written tests focused primarily on the material since the last exam with fill-in-the-blank, short-answer, or essay format questions which may include drawing and labeling diagrams. Past exams and species lists are available on the course website. Unlimited pages of handwritten notes can be used on the second midterm and the final exam. There can be no computer generated material on the notes, and you must initial or sign the middle of each page in pen. You keep all your notes.

**Presentation**: This assignment will be explained in detail later in the semester. This will be a presentation on a number of species from other regions in North America. Presentation materials (powerpoint slides, handouts, etc.) will be due for everyone via email by Wednesday, 4/10 at 9:00AM, regardless of when you present. Each presenter will then sign up for a meeting with me prior to their presentation do a practice run. At this point you will be allowed to make revisions to materials prior to the presentation.

**Lab Quizzes**: During labs we will intermittently stop at ‘quiz trees’. At each quiz tree the student will identify in writing the FAMILY (2 pts), GENUS (2 pts), SPECIFIC EPITHET (2 pts), and COMMON NAME (6 pts). One point will be deducted for incorrect spelling of each of the FAMILY, GENUS, or SPECIFIC EPITHET. Full credit will be given for the common name as long as it is clear to the instructor that the student knows the identity of the species (at my or the TA’s discretion). No credit will be given for excessively generic answers (e.g. only writing ‘oak’). The best common name to use to avoid confusion is always the name on the master species list that is available on the
course website. The lab big quiz will be the same as the regular quizzes except that approximately 25 specimens will be given rather than the usual 10. No new species will be taught on that day.

The number of quiz specimens may vary from week to week and from lab to lab. All specimens are equal in point value, thus each student’s grade for the lab will be determined as the number of points earned divided by the number of points possible for that student. For example, Jimmy Q. Student was quizzed on 100 specimens over the semester and earned 960 points total. Jimmy’s final grade for the lab quizzes was thus \[ \frac{960 \text{ points earned}}{(12 \text{ points per specimen} \times 100 \text{ specimens})} = 80\% \]. Grades will be available on the course website throughout the semester so students can monitor their progress.

**Grading Policy**

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Cover Type Presentation</td>
<td>15%</td>
</tr>
<tr>
<td>Lab Quizzes</td>
<td>50%</td>
</tr>
<tr>
<td><strong>COURSE GRADE</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent Grade</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;89.44%</td>
<td>A</td>
</tr>
<tr>
<td>79.45 – 89.44%</td>
<td>B</td>
</tr>
<tr>
<td>69.45 – 79.44%</td>
<td>C</td>
</tr>
<tr>
<td>59.45 – 69.44%</td>
<td>D</td>
</tr>
<tr>
<td>&lt;59.45%</td>
<td>F</td>
</tr>
</tbody>
</table>

Final course grades or individual assignment grades may be curved if deemed appropriate by the instructor. Applying a curve will not result in the lowering of any student’s grade. Additionally, bonus opportunities are offered to the entire class and will be evaluated for credit at the discretion of the instructor. A list of bonus opportunities is available on the course website. It is strongly recommended that all students complete as many bonus opportunities as possible to improve their tree identification skills.

**Attendance Policy**

Attendance is important to successfully achieve the student learning outcomes described above. Class session attendance is mandatory. Attendance will be taken within the first 5 minutes of all classroom and lab sessions. Your ability to make up a lab for an excused absence will depend on the scheduling constraints of the instructor and teaching assistant(s). We will make every reasonable attempt to accommodate you, but may not be able to.

**PLEASE MAKE EVERY EFFORT TO ATTEND ALL LABS.** Remember that a makeup lab requires approximately 3 hours of either the TA’s or my time. Unforeseen circumstances arise, but repeated abuse of the lab makeup policy for your own convenience will not be looked upon favorably, and will be detrimental to your final course grade.

It is university policy to excuse students from attendance for certain reasons. Among these are absences related to health, family emergencies, and student participation in university-sponsored events. Students are responsible for providing documentation satisfactory to the instructor for each class missed PRIOR to the absence. If the absence is excused and you have discussed it with me prior to the lab, your grade will be recorded as a 0/0 (does not affect your lab grade) if we are unable to schedule a makeup lab. If the absence is unexcused or you do not notify me prior to lab, your grade will be recorded as a 0/120ish.

**Lab Safety and Conduct Policy**

Hardhats will be worn at all times that anyone is underneath tree-cover (even if we are on campus). Appropriate clothing, including pants and boots, is required for the labs. If you are improperly dressed you will not be allowed to attend lab and the lab will be treated as an unexcused absence (see attendance policy above). It is at the discretion of the instructor or teaching assistant what appropriate dress for the field is. Please do not wear sandals, tennis-shoes, sneakers, crocs, flip-flops, slippers, etc. You may also require a jacket or rain gear in the winter and water in fall, as appropriate. If you have a metal clipboard, bring GLOVES if it is cold out. Your lab will meet every week as scheduled. If we are scheduled to go to the field, then we will go, regardless of weather conditions. Come to lab dressed appropriately. Some labs may require crossing creeks or wading in up to chest-deep water, with a greater chance we will be wading during the spring rather than fall semester.
When you are taking field quizzes, you are not allowed to have your master list of species, any other list of species, or any fact sheets out, visible, or easily accessible. This will be enforced as an attempt to cheat. Looking at another student’s quiz sheet or allowing another student to look at your quiz sheet will also be enforced as an attempt to cheat. Cheating will result in a grade of zero on the quiz for all parties involved AND AN ADDITIONAL REDUCTION IN YOUR COURSE GRADE BY ONE FULL LETTER GRADE. A second instance of cheating by a student will result in a grade of F for the entire course. Behavior during lab judged to be detrimental to learning by myself or the TA will not be tolerated, and may result in failure of that week’s quiz, dismissal from the course, or other penalties. No tobacco products of any kind may be used in lab, including vaping.

Student Academic Dishonesty Policy (4.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. Definition of Academic Dishonesty: Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf

Course Grades Policy (5.5)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. Please read the complete policy at http://www.sfasu.edu/policies/5.5_course-grades.pdf

Academic Accommodation for Students with Disabilities Policy (6.1)
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/

Responsible Use of Technology
It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed. Please read the complete policy at http://www.sfasu.edu/policies/student-code-of-conduct-10.4.pdf

Revised 01.16.2019
## TENTATIVE SCHEDULE***

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>DAY</th>
<th>LECTURE</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23-Jan</td>
<td>Wed</td>
<td>1 Intro to Dendrology</td>
<td>NO LABS</td>
</tr>
<tr>
<td>2</td>
<td>28-Jan</td>
<td>Mon</td>
<td>2 Online Dendro Resources*</td>
<td>Lab 1: On Campus (No Quiz)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intro to Range of Woody Species</td>
</tr>
<tr>
<td></td>
<td>30-Jan</td>
<td>Wed</td>
<td>3 Anatomy / Morphology I **</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4-Feb</td>
<td>Mon</td>
<td>4 Anatomy / Morphology II</td>
<td>Lab 2: On Campus (Quiz #1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostly Common Natives</td>
</tr>
<tr>
<td>4</td>
<td>11-Feb</td>
<td>Mon</td>
<td>6 Online Keys 1*</td>
<td>Lab 3: On Campus (Quiz #2)</td>
</tr>
<tr>
<td></td>
<td>13-Feb</td>
<td>Wed</td>
<td>7 Keying Unknowns 1**</td>
<td>Invasives, Prickly Species, Hollies</td>
</tr>
<tr>
<td>5</td>
<td>18-Feb</td>
<td>Mon</td>
<td>8 Keying Unknowns 2**</td>
<td>Lab 4: Airport Woodlot (Quiz #3)</td>
</tr>
<tr>
<td></td>
<td>20-Feb</td>
<td>Wed</td>
<td>9 Creating Keys**</td>
<td>Common Natives</td>
</tr>
<tr>
<td>6</td>
<td>25-Feb</td>
<td>Mon</td>
<td>MIDTERM EXAM 1</td>
<td>Lab 5: Experimental Forest (Quiz #4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Common Bottomland and Mesic Species</td>
</tr>
<tr>
<td>7</td>
<td>4-Mar</td>
<td>Mon</td>
<td>11 Cover Types</td>
<td>Lab 6: Battery Place (Quiz #5)</td>
</tr>
<tr>
<td></td>
<td>6-Mar</td>
<td>Wed</td>
<td>12 Trees of the US South</td>
<td>Common Xeric Site Species</td>
</tr>
<tr>
<td>8</td>
<td>11-Mar</td>
<td>Mon</td>
<td>NO CLASS OR LAB – SOUTHERN SILVICULTURAL RESEARCH CONFERENCE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-Mar</td>
<td>Wed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>18-Mar</td>
<td>Mon</td>
<td>NO CLASS OR LAB – SPRING BREAK &amp; FORESTRY CONCLAVE @ LSU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-Mar</td>
<td>Wed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>25-Mar</td>
<td>Mon</td>
<td>NO CLASS - CONCLAVE</td>
<td>Lab 7: Tonkowa (Quiz #6)</td>
</tr>
<tr>
<td></td>
<td>27-Mar</td>
<td>Wed</td>
<td>13 Trees of Australia</td>
<td>Bay-Gall Species</td>
</tr>
<tr>
<td>11</td>
<td>1-Apr</td>
<td>Mon</td>
<td>14 Trees of South America</td>
<td>Lab 8: Maroney Park (Quiz #7)</td>
</tr>
<tr>
<td></td>
<td>3-Apr</td>
<td>Wed</td>
<td>15 Trees of Africa</td>
<td>Mostly Vines</td>
</tr>
<tr>
<td>12</td>
<td>8-Apr</td>
<td>Mon</td>
<td>16 Trees of Europe</td>
<td>Lab 9: Tram Road (Quiz #8)</td>
</tr>
<tr>
<td></td>
<td>10-Apr</td>
<td>Wed</td>
<td>17 Trees of Asia</td>
<td>Slough and Mesic Species</td>
</tr>
<tr>
<td>13</td>
<td>15-Apr</td>
<td>Mon</td>
<td>MIDTERM EXAM 2</td>
<td>Lab 10: Native Plant Center (Quiz #9)</td>
</tr>
<tr>
<td></td>
<td>17-Apr</td>
<td>Wed</td>
<td>Presentation Day 1</td>
<td>Natives Not Common to Nac County</td>
</tr>
<tr>
<td>14</td>
<td>22-Apr</td>
<td>Mon</td>
<td>Presentation Day 2</td>
<td>Lab 11: On Campus (Quiz #10)</td>
</tr>
<tr>
<td></td>
<td>24-Apr</td>
<td>Wed</td>
<td>Presentation Day 3</td>
<td>Mostly Introduced Ornamentals</td>
</tr>
<tr>
<td>15</td>
<td>29-Apr</td>
<td>Mon</td>
<td>Presentation Day 4</td>
<td>Lab 12: Lake Nac Park (Quiz #11)</td>
</tr>
<tr>
<td></td>
<td>1-May</td>
<td>Wed</td>
<td>Presentation Day 5</td>
<td>Wrap-up and Review</td>
</tr>
<tr>
<td>16</td>
<td>6-May</td>
<td>Mon</td>
<td>Presentation Day 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-May</td>
<td>Wed</td>
<td>Presentation Day 7</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>15-May</td>
<td>Wed</td>
<td>FINAL EXAM 8:00 – 10:00</td>
<td>LAB BIG QUIZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No new species taught</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Class will meet in the computer lab these days

**Bring textbooks to class

***This schedule (including lab locations) is subject to change without notice. However, I will notify you in class and in writing or by email as soon as possible of any changes to 1) exam dates, 2) presentation dates, or 3) assignment due dates.

Lab 5 may involve wading in knee deep water. Lab 7 will involve crossing several small creeks and walking in a muddy bog. Lab 9 may involve wading in up to chest deep water. Please come prepared.
The following reading assignments are fair game for in-class exams:

**MIDTERM 1**

- Kershner *et al.* pages 9-17; 41-61; 477-87.
- Nixon pages 1-6.
- The translations of the following Latin terms defined in the [Latin Translation Quiz](#).

<table>
<thead>
<tr>
<th>acuminata</th>
<th>cordiformis</th>
<th>heterophylla</th>
<th>opaca</th>
<th>serrulata</th>
</tr>
</thead>
<tbody>
<tr>
<td>alata</td>
<td>crassifolia</td>
<td>illinoïnensis</td>
<td>ovata</td>
<td>silicicola</td>
</tr>
<tr>
<td>alba</td>
<td>decidua</td>
<td>imbricaria</td>
<td>pallida</td>
<td>speciosa</td>
</tr>
<tr>
<td>alternifolia</td>
<td>deltoides</td>
<td>incana</td>
<td>palustris</td>
<td>spicatum</td>
</tr>
<tr>
<td>altissima</td>
<td>dentata</td>
<td>laciniosa</td>
<td>papyrifera</td>
<td>spinosa</td>
</tr>
<tr>
<td>americana</td>
<td>dioicus</td>
<td>laevigata</td>
<td>parviflora</td>
<td>stellata</td>
</tr>
<tr>
<td>aquatica</td>
<td>echinata</td>
<td>latifolia</td>
<td>pennsylvanica</td>
<td>sylvatica</td>
</tr>
<tr>
<td>arboream</td>
<td>fagus</td>
<td>laurifolia</td>
<td>pomifera</td>
<td>tetraptera</td>
</tr>
<tr>
<td>aromatica</td>
<td>falcata</td>
<td>lenta</td>
<td>pubescens</td>
<td>texana</td>
</tr>
<tr>
<td>betula</td>
<td>flexilis</td>
<td>lobata</td>
<td>pumila</td>
<td>tomentosa</td>
</tr>
<tr>
<td>bicolor</td>
<td>florida</td>
<td>macrocarpa</td>
<td>pungens</td>
<td>toxycodendron</td>
</tr>
<tr>
<td>biflora</td>
<td>floridana</td>
<td>macrophyllum</td>
<td>quadrifolia</td>
<td>tremuloides</td>
</tr>
<tr>
<td>bifolia</td>
<td>fragilis</td>
<td>maximum</td>
<td>radiata</td>
<td>triacanthos</td>
</tr>
<tr>
<td>biloba</td>
<td>giganteus</td>
<td>microphylla</td>
<td>radicans</td>
<td>trifoliata</td>
</tr>
<tr>
<td>canadensis</td>
<td>glabra</td>
<td>monophylla</td>
<td>rigida</td>
<td>triloba</td>
</tr>
<tr>
<td>caroliniana</td>
<td>glandulosa</td>
<td>montana</td>
<td>rubens</td>
<td>tripetala</td>
</tr>
<tr>
<td>carya</td>
<td>glauca</td>
<td>nigra</td>
<td>rubra</td>
<td>tulipifera</td>
</tr>
<tr>
<td>clausa</td>
<td>grandidentata</td>
<td>nyssas</td>
<td>saccharum</td>
<td>velutina</td>
</tr>
<tr>
<td>concolor</td>
<td>grandiflora</td>
<td>oblongifolia</td>
<td>sempervirens</td>
<td>virginiana</td>
</tr>
<tr>
<td>contorta</td>
<td>grandifolia</td>
<td>occidentalis</td>
<td>serotina</td>
<td></td>
</tr>
<tr>
<td>cordifolia</td>
<td>grandis</td>
<td>odorata</td>
<td>serrata</td>
<td></td>
</tr>
</tbody>
</table>

**MIDTERM 2**

- Kershner *et al.* pages 18-40.
- Nixon pages 7-12.

There is also a species list posted for trees of the world in course documents.

**FINAL EXAM**

There are no further outside readings, although your textbook has much useful information on most of the species covered in lecture. See the presentation species list posted in course documents.
DENDROLOGY BONUS OPPORTUNITY LIST

All bonus opportunities are due before the beginning of the final lecture session (not the exam, but the last class). Anything turned in after this deadline will receive no credit.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value*</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Improvements</td>
<td>1+ point each, unlimited</td>
<td>Every Fall &amp; Spring Semester</td>
</tr>
<tr>
<td>Leaf Collection</td>
<td>Up to 100+ pts</td>
<td>Every Fall &amp; Spring Semester</td>
</tr>
<tr>
<td>Twig Collection</td>
<td>Up to 50+ pts</td>
<td>ONLY SPRING SEMESTERS</td>
</tr>
<tr>
<td>Fruit Collection</td>
<td>Up to 50+ pts</td>
<td>ONLY FALL SEMESTERS</td>
</tr>
</tbody>
</table>

*All bonus points will be added to the numerator of your LAB grade. Thus 12 bonus points will make up for missing all points on one tree during one quiz.

Course Improvements (Full Credit Fall & Spring Semesters)

- Find any error on the course materials or website, or
- Offer any suggestions to improve the course materials or website to help you learn
- Email me or mention after class or lab.
- One or more points (at my discretion) will be given for each error found or suggestion depending on the extent to which your suggestion may improve learning in the course.
- There is no limit on bonus points for course improvements.
Leaf Collection (Full Credit Fall & Spring Semesters)

The collection should consist of up to 100 species, worth one bonus point each. I may give bonus points for species in excess of 100, although I will only determine the extent of the bonus once I have received all the leaf collections.

All species included MUST be off the master species list available on the course website.

DO NOT collect during lab
DO NOT collect from the Native Plant Center
DO NOT collect from the Arboretum
DO NOT collect from the Azalea Garden

If you are caught doing these things you’ll receive no bonus credit for your leaf collection.

At a minimum, the collection should be contained in a 3 ring-binder of appropriate size (probably 4”). It should have some sort of cover design with at a minimum your name, a title, the course name, and a date. A table of contents should be included, similar in design to the master species list, but only listing species in your collection. All species should then be organized in alphabetical order (as they are on the master species list, by family, then genus, then specific epithet).

You must collect your own specimens. Each specimen should be adequately dried and pressed (under something flat and heavy between newspaper pages), be neatly mounted on paper (printer paper is OK, but only if it looks good). If you use printer paper, you may need a plastic sleeve for each page so that the collection doesn’t fall apart. Each page should also contain, at a minimum, the family, genus, specific epithet, a page number, your signature, and a date. Please follow a format equivalent to the example page included below.

YOUR COLLECTION MUST BE NEAT, LEGIBLE, AND PRESENTABLE TO RECEIVE CREDIT.

In general, I will give NO bonus credit for: 1) misidentified species, 2) poor quality specimens (e.g. bug eaten, incomplete, not thoroughly dried), 3) not following directions, and 4) sloppy or low-quality work. I will generally award more bonus points to collections that demonstrate careful preparation, correct identification, well-displayed specimens, and any other features indicative of high-quality work and effort (e.g. cover art, sturdiness, neatness).

DO NOT TURN IN A LEAF COLLECTION FROM A PREVIOUS CLASS. YOU WILL RECEIVE NO CREDIT.

If you have any questions regarding this assignment, please ask me. A leaf collection is labor and time intensive, so please make sure we’re on the same page regarding any questions you may have before you get too far into the process.

You may use the digital option detailed below if you’d like to collect photographs rather than physical specimens.
-Example Leaf Collection Page-
Twig Collection (SPRING SEMESTER ONLY; NO CREDIT IN FALL SEMESTER)

- One point per twig, up to 50 twigs.
- Each specimen you collect must be off Master Species List on the course website.
- Do NOT collect from trees during lab. If we see you collecting in lab, you’ll get no bonus credit for a twig collection.
- You must collect your own specimens.
- Each must be correctly identified and neatly labeled with:
  - Common name
  - Family
  - Genus
  - Specific epithet
- Find some way to neatly mount or display the entire collection.
  - The collection should be sorted in alphabetical order by family then genus then specific epithet.
- You may use the digital option detailed below if you’d like to collect photographs rather than physical specimens.

Fruit Collection (FALL SEMESTER ONLY; NO CREDIT IN SPRING SEMESTER)

- One point per fruit, up to 50 fruits.
- Each specimen you collect must be off Master Species List on the course website.
- Do NOT collect from trees during lab. If we see you collecting in lab, you’ll get no bonus credit for a fruit collection.
- You must collect your own specimens.
- Each must be correctly identified and neatly labeled with:
  - Common name
  - Family
  - Genus
  - Specific epithet
- Find some way to neatly mount or display the entire collection.
  - The collection should be sorted in alphabetical order by family then genus then specific epithet.
- You may use the digital option detailed below if you’d like to collect photographs rather than physical specimens.
DIGITAL OPTION FOR COLLECTIONS

If you would prefer, you may create any of the bonus collections from digital photographs rather than physical specimens. To do so you **must** follow the specific criteria detailed below in addition to all the above-listed requirements on the previous pages that apply (i.e. those that don’t involve physical specimens). **Please ask if you’ve got questions before starting.** This option will likely involve just as much work as a physical collection. Each photo may only be submitted in only one collection: you may not use a fruit or twig photo in a leaf collection too if you turn both in. An example page follows.

1. **You must take all photos included in your collection yourself.**
2. **They must be of sufficiently high resolution and quality that I can identify each plant to species.**
3. **You may choose the background, but the features of the leaf or other plant parts must be clearly visible so that I can identify it to species.**
4. **You must include at a minimum one photograph of the appropriate plant part on each page and each page must be identifiable by me to species.** For example, a single photo of a green ash leaf is insufficient, because I will be unable to distinguish it from white ash. You would also need a twig photo focused on the leaf scar or a fruit photo in this example. You may also include bark, fruit, twig, form, or other relevant photographs at your discretion. This will take some forethought and planning on your part for some species.
5. **You may submit your collection in either digital form (as a pdf or powerpoint file) or printed out. My preference is digital.**
6. **You must give me, on a thumbnail drive during office hours no later than the collections due date, a folder with all the original (full-size) photographs you have included in your collection.**
   a. Each photograph MUST be named in the format (all lowercase)
      genusfirst4epithetfirst4_yourlastnamefirstinitialmiddleinitialyear_#.jpg
   b. For example, if I turned in the photos on the next page, they would be named:
      i. acerflor_stovalljp2010_1.jpg
      ii. acerflor_stovalljp2010_2.jpg
      iii. acerflor_stovalljp2010_3.jpg
      iv. acerflor_stovalljp2010_4.jpg
7. **For each species you must include in your folder, but not in the collection, a photograph of your face or some unique object identifiable to you near the same leaf, twig, etc. that you are using. These photos will not be used by me for any purpose besides one of my many, many ways to ensure that no one cheats by using google image, etc.**
8. **You must draft a basic letter to me containing the following:**
   a. Your name and the date
   b. A statement that all the photographs in your collection were taken by you
   c. A statement of the camera(s) that you used including the make and model (e.g. Nikon D70)
   d. A statement either granting me permission to use your photos on the course website free of all charges with your copyright information to be included on each photo **OR** a statement that I do not have your permission to use your photos on the course website. Either way, this will have NO EFFECT on your grade. It is entirely your decision.
   e. You must sign and date this letter.

**Suggestions:** MobaPhoto is a freely available program (google it) that allows you to easily rename a bunch of photographs. I would suggest that you put the collection together in powerpoint, as Microsoft word can be a real hassle with laying out photographs. PDF writers are freely available on the internet if you do not already have one. They generally work through the print feature of your software programs.
ACERACEAE

Florida maple

Acer floridanum

-Example Digital Leaf Collection Page-
Before I Forget

- Lab starts NEXT week
- Computer lab MONDAY
  - Info-Lab 1, 1st Floor, Steen Library behind circulation
  - There is a quiz on the course website (I’ll show you Monday)
  - You need a 100% on this to pass the course
  - Open everything (including classmates) on this quiz only
  - Unlimited retakes

About Me

- B.S. Clemson ’05
- M.S. UVM ’07
- Ph.D. VT ’10
- Started Aug. ’10
About me

What is Dendrology?

Dendro =

ology =

What is a TREE?
What is a TREE?

- A woody plant that has many secondary branches supported clear of the ground on a single main stem or trunk with clear apical dominance (Wikipedia)
- A woody perennial plant having a single usually elongate main stem generally w/ few or no branches on its lower part (Merriam-Webster)
- A woody plant that at maturity is 13 feet or more in height, with a single trunk at least 3 inches in diameter at breast height, unbranched for at least several feet above the ground, and having a more or less definite crown (Harlow & Harrar; Little)

Are These Trees?

What is a TREE?

“I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description; and perhaps I could never succeed in intelligibly doing so...”

“But I know it when I see it”
What is a TREE?
A big plant with a stick up the middle (Colin Tudge)

But What To Do With These?
LIANAS?
SHRUBS?

Woody Plants
Woody Plants

Almost 4x height of Steen Hall

What Do We Study in Dendro?

- Identification
- Morphology
- Taxonomy
- Evolution
- Silvics (Ecology)
- Distribution
What Do We Study in Dendro?

Identification

How you know what dat?

Morphology

What Do We Study in Dendro?

What Dat?
What Do We Study in Dendro?

What does bark look like?

MORPHOLOGY

What Do We Study in Dendro?

HABIT: the growth form of a woody plant
Tree, shrub, vine, etc.

MORPHOLOGY
What Do We Study in Dendro?

**TAXONOMY**

- **Binomial Scientific Name**
  - Genus + specific epithet

- **Species List**:
  - *Acer rubrum*
  - *Acer floridanum*
  - *Quercus alba*
  - *Quercus macrocarpa*
  - *Toxicodendron vernix*
  - *Lagerstroemia indica*
  - *Liquidambar styraciflua*

---

What Do We Study in Dendro?

**EVOLUTION**

- **Tree of Life**

---

What Do We Study in Dendro?

**EVOLUTION**

- **Gymnosperms**
- **Angiosperms**
What Do We Study in Dendro?

• Gymnosperms
  – “Naked Seed”
  – 600 Tree Species
  – 8 Families

What Do We Study in Dendro?

• Angiosperms
  – Flowers & Fruits
  – ~60,000 Tree Species
  – ~400 Families
  – ~30 Orders
What Do We Study in Dendro?

EVOLUTION

FOR 219 Lecture 1 Revised 01.08.2018

What Do We Study in Dendro?

SILVICS (ECOLOGY)

FOR 219 Lecture 1 Revised 01.08.2018

What Do We Study in Dendro?

SILVICS (ECOLOGY)

FOR 219 Lecture 1 Revised 01.08.2018
What Do We Study in Dendro?

SILVICS (ECOLOGY)

FOR 219 Lecture 1 Revised 01/08/2018

1/16/2019
What Do We Study in Dendro?

DISTRIBUTION

1/16/2019