

FO 2113 Dendrology

Lecture: Tuesday – Thursday 11:00 – 11:50, Rm 100 Thompson Annex

Lab: Tuesday or Thursday 1:00 – 4:50, Rm 100 Thompson Annex

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Office Hours: 9-10:00 Mon-Fri or by appointment

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Course Description:

Dendrology deals with the classification (systematics), morphology, phenology, ecology, geographic range, and natural history of trees. This course is designed to provide you with a thorough understanding of the characteristics and importance of trees, shrubs and woody vines of the southeastern US as well as commercially or ecologically important species from other parts of North America. Many shrubs and woody vines we take up in lab are not covered in lecture and are not in the book. **This is the starting point for forest resource management. If you can't identify forest vegetation, you will not be able to manage it for timber, wildlife, recreational and other values.**

Exam/Assignment Dates and Lecture Schedule:

First exam	<u>Sep. 22</u>
Fall Break	<u>October 5 & 6, No Lecture Oct. 6, No labs on Oct. 6 & 8.</u>
Second exam	<u>Oct. 29</u>
Field final	<u>Nov. 3,5</u>
Plant collections due	<u>Nov. 10</u>
Final exam	<u>Monday, Dec. 7, 12:00-3:00</u>

Missed exams may not be taken at a later date. If you know you will have to be absent, with instructor approval, you may arrange to take an exam early. If you have an excused absence, with instructor approval you may elect to use your final exam grade as a substitute score for the missed exam. Missed field final will be replaced with adjusted lab quiz average. Lecture exams will not be returned.

#	Lecture Topics (number of lectures)
1	Introduction, Classification & Nomenclature (1/2)
2	Identification (1/2)
3	Interspecific Variation (1/2)
4	Vegetative morphology (1)
5	Reproductive morphology (1/2)
6	Tree growing regions of the United States, Habitat, Range, & Plant Communities (2)
7	Mississippi Physiography (1)
8	Magnoliophyta (Angiosperms): Classes Magnoliopsida, Liliopsida (1/2)

9	<u>Leaves opposite or whorled:</u> Aceraceae, Bignoniaceae, Caprifoliaceae, Cornaceae, Hippocastanaceae, Oleaceae, Rubiaceae (2)
10	<u>Leaves alternate:</u> Anacardiaceae, Annonaceae, Aquifoliaceae, Araliaceae, Betulaceae, (2)
11	Ebenaceae, Ericaceae, Euphorbiaceae, Fabaceae (1)
12	Fagaceae (3)
13	Site preferences (1)
14	Hamamelidaceae, Juglandaceae (1)
15	Lauraceae, Magnoliaceae, Meliaceae, Moraceae (1)
16	Myricaceae, Platanaceae, Rhamnaceae, Rosaceae (1)
17	Rutaceae, Salicaceae (1)
18	Styracaceae, Symplocaceae, Tiliaceae, Ulmaceae (1)
19	Pinophyta (Gymnosperms): Ginkgoaceae, Taxaceae (1/2)
20	Cupressaceae (and Taxodiaceae) (1)
21	Pinaceae, genera: <i>Abies</i> , <i>Larix</i> , <i>Picea</i> (1)
22	Pinaceae, genus: <i>Pinus</i> (eastern yellow (hard) pines) (1)
23	Pinaceae, genus: <i>Pinus</i> (western yellow (hard) pines) (1)
24	Pinaceae, genus: <i>Pinus</i> (soft pines) (1/2)
25	Pinaceae, genera: <i>Pseudotsuga</i> , <i>Tsuga</i> (1/2)

Refer to MS trees book for individual species found in MS covered from families listed above.

Learning Objectives:

1. Learn parts of woody plants that are useful in their identification.
2. Examine the site characteristics that control the distribution of different species.
3. Learn the defining characteristics and utility of trees both locally and in North America.
4. Develop a collection of representative woody plants that can be used for future studies.
5. Be able to identify in the field each plant species covered in laboratory.
6. Learn the scientific and common names of each plant species studied.

Course Materials:

Hodges, John D., Evans, David L., Garnett, Linda W. Mississippi Trees. Mississippi State University Extension Service. 337 p. http://www.cfr.msstate.edu/forestry/documents/ms_trees.pdf

This book is a useful reference but it does not cover all topics/material and species that will be covered in lecture or lab so TAKE NOTES and utilize supplemental materials on the course. * THIS BOOK IS SIGNED OUT AND MUST BE RETURNED OR YOU WILL LOSE POINTS ON YOUR FINAL GRADE.**

www.mycourses.msstate.edu – log in to access **mycourses**, **register clickers** (clickers folder), access class and lab documents, etc. **MATERIALS ARE PROVIDED AS A LECTURE GUIDE AND ARE NOT A SUBSTITUTE FOR TAKING NOTES AND PARTICIPATING IN LECTURE DISCUSSION.**

Species List: THE MASTER SPECIES LIST ON MYCOURSES IS THE ABSOLUTE ARBITER FOR SPELLING OF FAMILY, SPECIES, AND COMMON NAMES ON ALL GRADED WORK.

Other useful references and resources:

Hardin, James W., Leopold, Donald J., and White, Fred M. 2001. Harlow & Harrar's Textbook of Dendrology. McGraw-Hill. 534p.

Miller, James H. and Miller Karl V. 1999. Forest Plants of the Southeast and Their Wildlife Uses. Southern Weed Science Society. 454p.

Petrides, George A. 1988. A Field Guide to Eastern Trees. Houghton Mifflin Company. 424p. (Peterson Field Guide)

Samuelson, Lisa J. and Hogan, Michael E. 2003. Forest Trees: A Guide to the Southeastern and Mid-Atlantic Regions of the United States. Prentis Hall. 429p.

<http://www.dendro.cnre.vt.edu/dendrology/main.htm> Virginia Tech

<http://plants.usda.gov/> USDA Plants database

http://www.na.fs.fed.us/pubs/silvics_manual/table_of_contents.shtm USDA Forest Service

http://www.srs.fs.usda.gov/pubs/gtr/gtr_srs062/ (pub on non-native/invasive species)

<http://www.southeasternflora.com>

Class Assignments:

Plant collection. Note the due date above under Schedule and detailed instructions at end of this document.

Methods of Evaluation and Standards of Achievement:

Grade scale - \geq 90% A; 80-89% B; 70-79% C; 60-69% D; $<$ 60% F.

Lecture quizzes (unannounced) cover material presented in the previous lecture. **All weekly field quizzes, hour exams, field final and lecture final are comprehensive.** The overall weighting of points for the final grade is:

Lecture quizzes and attendance	5%	Plant collection	15%
Lecture exam 1	10%	Field final exam	20%
Lecture exam 2	15%	Lecture final exam	20%
Weekly field quizzes	15%		

Attendance counts as two 5-point lecture quiz grades. Missed lecture quizzes cannot be made up. Return of your "Mississippi Trees" book automatically counts as 10 points (two 5-point quiz grades). **Failure to return the MS Trees book results in two 0's that cannot be dropped.**

The first hourly exam will tentatively be on Sept. 22 and the second exam will be Oct. 29. Field final is Nov. 3, 5. Plant collections are due Nov. 10. The final exam is Monday, Dec. 7, 12-3:00. Missed exams may not be taken at a later date. If you know you will have to be absent, with instructor approval, you may arrange to take an exam early. If you have an excused absence, with instructor approval you may elect to use your final exam grade as a substitute score for the missed exam. Missed field final will be replaced with adjusted lab quiz average. Lecture exams will not be returned.

***** FAILURE TO SUBMIT A PLANT COLLECTION BY THE DUE DATE AND TIME WILL RESULT IN A ZERO (0) ON THE ASSIGNMENT. NO EXCEPTIONS! FAILURE TO RETURN PLANT PRESS IS AN AUTOMATIC TWO LETTER GRADE DEDUCTION ON THE COLLECTION**

***** YOU MUST PASS THE FIELD PORTION OF THE COURSE (WEEKLY FIELD QUIZ AVERAGE AND FIELD FINAL EXAM MUST BE A COMPOSITE SCORE OF 60% OR GREATER) IN ORDER TO RECEIVE A PASSING GRADE IN THE COURSE.**

Class and Lab Information:

General: There will be no cell phone use in class or lab. Please turn your cell phone off or set to “Silent” or “Vibrate” if you want to be able to receive any potential Maroon Alert messages. Know that if the possibility of severe weather exists, I will be monitoring it. You may not use food, drink (except water for labs), or tobacco products in class or lab. **No smoking, dipping or chewing indoors or outdoors.** This is MSU policy and will be enforced.

You accept responsibility for class and lab attendance and participation. If an absence is essential, you must provide satisfactory evidence to substantiate the reason for the absence. Please come to class or lab prepared for the day's work by reading any assigned material and by reviewing your notes. Be engaged but not disruptive in class and lab discussions (appropriate comments and questions are always welcomed). Treat all aspects of this experience as the early stages of your professional career and act the part.

Outdoor laboratories: We will be walking (longest walk about 1.75 miles) through natural areas often on uneven terrain containing briars, poison ivy, poisonous snakes, stump holes, mud, and water. You should dress appropriately with proper clothing (**jeans or other heavy pants for leg protection**), **boots (required)**, eye protection (recommended), and raingear if needed. During severe weather, the instructor may conduct the lab session indoors with plant specimens from the CFR herbarium. **YOU WILL NOT BE ALLOWED TO PARTICIPATE IN FIELD LABS WITHOUT PROPER LEG AND FOOT PROTECTION (NO SHORTS, SANDLES, FLOPS, ETC.). Unexcused absences will result in a reduction of your grade through missed quizzes.**

Items you should bring to lab include: **quiz slips** (at least 25 unless told otherwise; write-in-rain paper recommended), **covered clipboard**, **pencil(s)**, **notebook** or paper (suggest write-in-rain paper), hand lens, a **plastic collection bag** (garbage bags work fine), **drinking water**, **insect repellent**.

Quizzes may be given in the field at any time. It is your responsibility to bring at least 25 quiz slips to each lab. Quiz slips (6 per page) can be downloaded from the MyCourses page. Cut out the slips (don't print out and tear at last minute before a lab). Answers turned in on something other than quiz slips will not be accepted. *YOU MAY NOT SWAP LAB DAYS, we don't have extra room in the vans. If you miss, you miss; I'll have to determine how to handle grading if you have a valid excuse. ***YOU MAY NOT DRIVE YOUR OWN VEHICLE TO LABS.**

When taking field quizzes, please cover quiz sheets so that other students cannot see your answers. Stand at least 10 feet from other students before writing your answers. ***** TALKING, GESTURING, WINKING, ETC., DURING QUIZZES WILL BE TREATED AS VIOLATIONS OF THE STUDENT HONOR CODE.**

Study specimens of the species covered in labs will be located in the herbarium cases in A208. Should specimens be abused or disappear, they will be locked up. I will conduct voluntary field review sessions during the semester for those who would like additional help. These are typically done on Fall Field Day, in the middle of the term, and the weekend prior to the field final exam. If you need additional help, please don't hesitate to contact me or your lab assistant.

MyCourses: * IT IS YOUR RESPONSIBILITY TO REVIEW THE COMPLETE SYLLABUS WITH PLANT COLLECTION INSTRUCTIONS.** Please also read and follow the advice given in the document “**Professional Expectations for Students in the Forestry Program.**” Other materials posted on MyCourses includes lecture slides, **quiz slips for labs**, keys to hickories, species lists, lab notes, example questions, etc. **Lecture materials are outlines and are not a substitute for being attentive and TAKING NOTES on what is presented and discussed.**

Student Honor Code:

Mississippi State has an approved Honor Code that applies to all students. The code is as follows:

“As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Student will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information, please visit: <http://honorcode.msstate.edu/policy>.

Title IX:

MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to titleix@msstate.edu. Additional resources are available at <http://www.msstate.edu/web/security/title9-12.pdf>, or at <http://students.msstate.edu/sexualmisconduct/>.

Support Services:

Students who need academic accommodations based on a disability should visit the Office of Student Support Services, 01 Montgomery Hall, call 662-325-3335, or visit the website at www.sss.msstate.edu.

Instructions for Plant Collection:

Collections consist of **50 species** representing at least **25 plant families**. **Only those species listed in bold on the Master List may be collected. Specimens may not be collected from the MSU main campus or from the South Farm Arboretum.** If you collect on the Noxubee Refuge, be sure to have in your possession a copy of the special-use collection permit provided on MyCourses.

Each specimen **must include a twig** with at least 1, preferably more, **attached complete leaves** and petioles from additional leaves to illustrate leaf arrangement. Twigs and leaves should be **cut off the tree**, not torn. **Avoid collecting damaged leaves. Specimens should be properly pressed** between multiple layers of newspaper separated by corrugated cardboards. **A press will be loaned to you** at the beginning of the semester. **You must return it** on same day collections are due. Drying typically takes about 1 week. Collections may be turned in at any time, but **no later than November 11, 4:00**. Some deciduous species loose leaves fairly early and should be collected soon. **START NOW! BRING A BAG TO LABS AND REVIEWS FOR COLLECTING.**

Mount dried specimens on **8.5 x 11 inch card stock** (available at office supplies stores; copy machine paper is not acceptable) with **clear-drying white or wood glue** suitable for porous surfaces. Hot glue guns also work well if used carefully to avoid glue strings. Large leaves may be affixed to the back of the page if required for extra space (put note to refer to back of page). **DO NOT GLUE LEAF BLADES TO SHEETS, GLUE THE TWIGS AND PETIOLES.** Show both front and back of leaf blades for those specimens that have diagnostic surface characteristics. On specimens that indicate pith characteristics as a field recognition feature, cut a transverse section out of the twig to expose a one-inch portion of the pith. Flowers or fruit can be included if they are available and can be mounted easily.

Mounted specimens should be placed inside a large **3-ring binder(s) in clear document sleeves** and in **alphabetical order by family then species**. **Page numbers** should be typed on each specimen page in the upper right hand corner. Each specimen page is **labeled at the bottom left and right corners** of the sheet (no points given for incorrectly identified specimens) with:

Family name:	Collected by:
Scientific name:	Date:
Common Name:	Location:
Field Recognition Features: (list three specific features)	(proper name of place including county and state)

All collections must have a **table of contents** including the **family, genus, species, common name and page number** arranged alphabetically by family then within family, by genus and species. Collections will be graded on accuracy, completeness, and neatness. Grading for correctly identified specimens will be as follows: leaves and twig = 10 points, labeling = 10 points. **Total collection point value:** (20 points per specimen x 50 specimens + 50 points for table of contents + 25 points for 25 families + 25 points for overall presentation) = **1100 points**.