Syllabus

Dendrology of Forest Plants
FNR 3131C – Fall 2015
3 Credits

Instructor
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Course Description
The course concentrates on the identification, classification, nomenclature, uses and characteristic habitats of major tree, shrub and groundcover species of the United States and common understory and wetland species in the Southern United States. Emphasis is placed on examples found in plant communities of Florida. We will study how to use different characteristics such as leaf shape, arrangement, bark texture, and habitat to identify trees and other plant species.

The course is divided into two integrated components. Lectures provide background information essential to developing identification skills and laboratory exercises provide hands-on application of identification skills and an opportunity to practice plant identification. Teaching methods include lectures, handouts, field trips, and occasional, student presentations, group activities, demonstrations, assigned readings, discussions and hands-on laboratory sessions and field study.

Learning Objectives: At the conclusion of this course, the student will be able to:

- Identify major tree, shrub and herbaceous species in the forests of the United States from living specimens as well as from samples of flowers, twigs, leaves, and fruits;
- Use rules of scientific nomenclature to correctly present the common name and binomial;
- Employ dichotomous plant keys to identify unknown species in the future;
- State major and minor uses of each species; and,
- Describe physical and biological features associated with the major tree species and forest types in other regions of North America.
- Synthesize, write and publicly present information about trees and plants.

Class Website
Canvas (for lectures, print-outs, additional readings, assignments, etc.)
https://lss.at.ufl.edu/

Recommended Texts:


Other Sources:

Florida, Gainesville. 605 p.


Harlow, W. M. 1941 Fruit Key & Twig Key to Trees & Shrubs Dover Publications, New York.


Tree & Plant Online Resources:
http://edis.ifas.ufl.edu/index.jsp - EDIS Documents
http://plants.usda.gov/ - list of plants and characteristics
http://www.floridata.com/ - database of Florida trees and plants
http://www.fs.fed.us/database/feis/ - fire effects on plants
http://www.flmnh.ufl.edu/herbarium/cat/ - UF herbarium
http://www.plantatlas.usf.edu/ - plant atlas (USF)
http://www.sfcc.edu/Extension/florida_forestry_information/forest_resources/ - FL
http://centerforplantconservation.org/ - endangered plants
http://www.hort.uconn.edu/plants/index.html - NE US
http://www.invasivespeciesinfo.gov/plants/databases.shtml - invasive species
http://davesgarden.com/guides/botany/ - botanical terminology
http://www.flmnh.ufl.edu/herbarium/voucher.htm - how to produce a pressed specimen
http://www.cnr.vt.edu/dendro/wwwmain.html - Virginia Tech dendrology page
http://oregonstate.edu/trees - Trees of the Pacific Northwest
http://plants.ifas.ufl.edu/node/22 - Aquatic plants
http://plants.ifas.ufl.edu/identif.html - Non-native plants in Florida
http://www.sfcc.edu/Extension/ffws/tof.htm - Trees of Florida
http://www.shirleydenton.com/plants/plantindex.php - Fl plant photographs by Shirley Denton
Many other valuable online resources are available. A Google search can help you find endless amounts of information.

Equipment and Clothing:
I will have 10X hand lenses available. You may also need a sharp pocket knife and clothing which will withstand direct sun, rainy days and rough vegetation and terrain. A clipboard or small notebook will also be useful as most laboratory sessions are in the field. You also need a canteen or similar vessel for water. If you are prone to irritations or allergies by mosquitoes, fire ants, chiggers, ticks and poisonous plants, it is strongly recommended that you always use repellents and take precautions during and after each lab session. I personally use some kind of mosquito spray to put on exposed skin AND Repel Permanone for ticks and chiggers to put on clothes. (Wal-Mart, Target etc. should have all the selection you need). NOTE: Permanone is extremely lethal to cats. It stays on your clothes for up to 6+ washes. Do NOT apply Permanone to your skin.

If you are allergic to insect bites, or if you have other medical conditions for which emergency treatment may be required, it is your responsibility to inform the instructors before the course starts, about: (1) your specific condition, (2) where you keep your medicine, and (3) how to administer emergency treatment should the situation arise. Field labs are long and tedious (oops, we mean energizing); therefore, if you are diabetic it is your responsibility to maintain your personal supply of required food or liquids, should you need them, in order to continue the laboratory.

Lyme disease, which may be contracted through tick bites, is a disease that all people working in natural resources should respect. While not fatal, it can be very painful and even debilitating. It is a risk of the profession; therefore, it is your professional responsibility to wear clothing and repellents that will minimize your chances of getting this disease. Even with these precautions, you should conduct a "tick search" each day after field sessions.

The following is important information you need to know when working outdoors:
Ticks & Lyme Disease: http://edis.ifas.ufl.edu/pdffiles/MG/MG20400.pdf or http://fmel.ifas.ufl.edu/buzz/clticks.shtml
West Nile Virus: http://edis.ifas.ufl.edu/ln117
Dengue Fever: http://edis.ifas.ufl.edu/in699
Heat: http://solutionsforyourlife.ufl.edu/hot_topics/agriculture/heat_stress.html
Dehydration: http://fineinstitute.com/patientseducation/?id=11913&lang=English&db=hl&ebSCOType=static&widgetTitle=Spinal+Links

Class and Laboratory Attendance:
Due to the size of each class and lab section, roll call will usually not be taken. As a new natural resources professional you are expected to assume the responsibility of choosing when absence from class or lab is to your personal or professional advantage. For whatever reason may justify your absence, you are entirely responsible for obtaining the information missed from someone other than the instructors. A student missing a lab cannot make up the missed session by attending a lab of the other section. In general, No make-up tests will be given for absence from the exams or quizzes. Of course, some situations merit exceptions (hurricanes, death in the family, serious illness).
Examinations/Graded Exercises:

Lectures will be directed discussions, explanations and question/answers from the material that you have been assigned to read. They will also contain additional information that is not in the text or this manual. Outlines for most lectures are included in the manual to assist your note taking.

Lecture Exams will be comprehensive, covering all material presented in lecture, laboratory and reading assignments from the beginning of the course. The format of each exam will vary, and may include definitions, compare/contrast, short answer, fill in the blanks, multiple choice, true/false, list/explain, crossword puzzle completions, construction of plant identification keys and maybe short essay questions, and possibly a real plant specimen to identify. These exams will be given in class during normal class times or they may be online through Canvas. Exams in Sakai are timed exams. You will only be able to access the exam ONCE; therefore, be sure you have enough time to complete it and are on a trustworthy internet connection. DO NOT WAIT UNTIL THE LAST MINUTE TO COMPLETE ONLINE EXAMS IN THE EVENT A SITUATION ARISES (e.g. computer, internet, or power outage)!

Laboratory:

A plant identification-information quiz will be given at each lab session and the time of the exam may vary depending on the structure of the lab for that day. The format of each quiz will remain constant but the length and value of the quizzes will vary. For each plant on each quiz, you will be expected to print, correctly and legibly in scientific nomenclature, the family to which the plant belongs, the binomial name of the plant, the accepted common name of the plant, and answer any question regarding the plant that has been discussed in lecture, lab or the text and readings. There will be a time limit on each identification specimen on each quiz. In order to allow you to adjust to the testing type and procedures, initially you will be given 2 minutes for each plant. The time limit will be reduced gradually to 30 seconds per plant before the final field exam. Correct spelling and presentation of scientific nomenclature (family and binomial) is essential! Regardless of the weights of laboratory or lecture quizzes, spelling credit will be deducted from each word of scientific nomenclature that is not spelled or presented correctly!

Plant Presentation:

Each student will prepare a short Powerpoint presentation on two selected species, using class references and whatever additional library resources you prefer. Your primary objective is to briefly describe the species, its silvics, phenology and range, then focus the major portion of the presentation on the morphological characteristics necessary to identify the species. Your secondary objective is to make comparisons or contrasts to other species with which the plant may be easily confused. Your presentation should conclude with a list of references. The total presentation time for your project should not exceed 5 minutes for each species. Photographs for morphological characteristics must be your own for all plant parts available during the time of the class and photo credits must be included for all photos in the presentation. You will have an opportunity to narrate (record) the two species as separate presentations and they will be uploaded to the class website for class review (This is where I can determine if you have more than 5 minutes of presentation!). The 50 possible points will be determined on the basis of Content – Is the information correct? and Proper use of terminology (20); Organization & coherence – Logical flow, clarity of speech. (10); Species ID – Clear display of plant and plant parts. (10); Professionalism - (10). This project will be due by midnight 18 Nov. 2015.

Herbarium Collection:

You may find yourselves in future professional positions in which collection and identification of new/unknown plants will be important for your own reference or for presentation to others. You will prepare a herbarium collection of 50 specimens over the course of the semester. Proper press and mounting procedures will be demonstrated in lab. Collected specimens should be of good quality, pressed flat and dried. Once specimens are pressed and dried they should be mounted on good quality paper for inclusion in a loose-leaf binder or similar collection system. Mounted specimens should be
arranged to show the distinguishing characteristics of the leaves, buds and twigs. On the bottom, right, front side of each mounted specimen an herbarium label (including correct scientific name with authors, location of live specimen, associated species, date of collection, your name, and other information) will help you in later review of your collection. Specific instructions for the herbarium collection will be provided to you in class. Collections will be graded on accuracy, completeness, and neatness. Grading for correctly identified specimens will be as follows: Completeness of sample (includes leaves and twig) = 1 point, accurate labeling = 1 point. Total collection point value = (2 points per specimen x 50 specimens) + 5 points for table of contents + 5 points for 25 families + 5 points for overall presentation (neatness). This project will be due by 6 pm, 24 Nov. 2015.

**Student Evaluation and Grading:**
**Grades for the course will be based on a total of 765 points, allocated as follows:**
8 identification quizzes (15-20 plants each) 200 points
1 identification final (50 plants) 100 points
Lecture Exams (2 @ 100 points each) – 200 points
Final Exam – 100 points
Projects
  - Plant Collection 115 points
  - Plant Presentation 50 points

- Grading follows University standards and will be based on the following scale:
  94-100% A
  90-93% A-
  87-89% B+
  83-86% B
  80-82% B-
  77-79% C+
  73-76% C
  70-72% C-
  67-69% D+
  63-66% D
  60-62% D-
  < 59% E

**Student Evaluation**
- The two exams, final exam will be comprised of multiple choice, short answer, true/false, matching and short essay questions based primarily on lecture material, but including major concepts from the lab also. Only students with a valid and prior excuse will be given makeup tests.
- The instructor reserves the right to add 1-3 points to the final percentage score on the basis of meaningful class participation, demonstrated student interest, and overall student dedication.

**Policy on Questioning Test Scores:** Any questions regarding your performance on any test are welcome. Questions on quiz or exam scores must be addressed before the end of the next class period after the quizzes or exams are returned. The instructor reserves the right to reevaluate the entire quiz or exam.
**Academic Honesty**

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students. In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code. **The Honor Code:** We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the university, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior. Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. *(Source: 2007-2008 Undergraduate Catalog)* It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will be vigorously upheld at all times in this course.

**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.

**Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health Services provide 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. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- **University Counseling Center**, 301 Peabody Hall, 392-1575, [www.counsel.ufl.edu](http://www.counsel.ufl.edu)
- **Career Resource Center**, CR-100 JWRU, 392-1602, [www.crc.ufl.edu](http://www.crc.ufl.edu/)
- **Student Mental Health Services**, Rm. 245 Student Health Care Center, 392-1171, [www.shcc.ufl.edu/smhs/](http://www.shcc.ufl.edu/smhs/)
  - Alcohol and Substance Abuse Program (ASAP)
  - Center for Sexual Assault / Abuse Recovery & Education (CARE)
  - Eating Disorders Program
  - Employee Assistance Program
  - Suicide Prevention Program

**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. 0001 Reid Hall, 392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)