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| Dr. Michael G. Andreu                                | Jason Smith  | Dr. David Fox  |
| Assoc. Prof. of Forest Systems                       | Assoc. Prof. Forest Health                         |  |
| Room 351 NZ  |  | Forest Stewardship, <a href="#">Bldg 844</a>           |
| (352) 846-0355                                       | (352) 846-0843                                     |  |
| <a href="mailto:mandreu@ufl.edu">mandreu@ufl.edu</a> | <a href="mailto:jasons@ufl.edu">jasons@ufl.edu</a> | <a href="mailto:dafoxfl1@ufl.edu">dafoxfl1@ufl.edu</a> |
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Office Hours (Andreu): Wed. 11:00 – 12:00 & Thurs.: 10:00 – 11:00 or email for appointment.

Field Assistants: Courtney Deviney, John Norton

Tues: Danny Harris

Weds: Tristan Ross

Class Schedule: Mon, Wed. 9:35 – 10:25 (Period 3), Room: **Newins-Ziegler 112**

Lab Schedule: Section 1137 – Tues. 8:30 – 12:35 (Periods 2 – 5)

Section 1141 – Wed. 12:50 – 4:55 (Periods 6 – 9)

**If one intends to manage, conserve or protect a forest, it is necessary to know the species of which it is composed.**

**Catalog Course Description:** Provides a basic understanding of the classification, nomenclature, morphology, ecological relationships, associations and uses of the major forest tree and shrub species of North America.

**Instructor’s Course Narrative:** Plants are the foundation of an ecosystem and through the process of photosynthesis they generate nutrient resources for all living entities. In this class we learn to identify trees and plants in a variety of habitats found in Florida as well as other parts of the country and world. We will study how to use different characteristics such as leaf shape, arrangement, bark texture, and habitat to identify trees and plant species. We will also learn to use a dichotomous key to assist in the identification of plant species.

**Learning Objectives:** Upon completing the course, students will be able to:

- identify major tree, shrub and herbaceous species in the forests of the southeastern 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 economic and ecological attributes of each species
- describe physical and biological features associated with the major tree species and forest types in other regions of North America and the world

**Teaching Methods:** Lecture, discussion, demonstrations, assigned readings and hands-on laboratory sessions and field study.

**Required Texts:**

Godfrey, R. K. 1988. Trees, Shrubs and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. The University of Georgia Press, Athens. 734 p.

**Recommended Texts:**

Harris, J.G. and Harris, M. W. 2000. Plant Identification Terminology: An Illustrated Glossary Spring Lake Publishing, Spring Lake UT. 206 p.

Taylor, W. K. 2013. Florida Wildflowers: A Comprehensive Guide. University Press of Florida, Gainesville. 576 p.

Miller H. J. and Miller K. V. 1999. Forest Plants of the Southeast and Their Wildlife Uses. University of Georgia Press. 454 p.

**Tree & Plant Online Resources:**

Plant databases:

<http://plants.usda.gov/> - list of plants and characteristics

<http://www.floridata.com/> - database of Florida trees and plants

<http://oregonstate.edu/trees> -Trees of the Pacific Northwest

<http://www.sfrc.ufl.edu/Extension/ffws/tof.htm> - Trees of Florida

<http://dendro.cnre.vt.edu/dendrology/factsheets.cfm> - Virginia Tech dendrology page

<http://www.fleppc.org/> - Florida Exotic Pest Plant Council

<http://edis.ifas.ufl.edu/index.jsp> - EDIS Documents

[http://www.sfrc.ufl.edu/Extension/florida\\_forestry\\_information/forest\\_resources/](http://www.sfrc.ufl.edu/Extension/florida_forestry_information/forest_resources/) - FL

<http://www.fs.fed.us/database/feis/> - fire effects on plants

<http://davesgarden.com/guides/botanary/> - botanical terminology

Apps:

Pl@ntNet – Plant ID

IveGot1 – Invasive Plants & Animals

Many other valuable online resources are available. A Google search can help you find endless amounts of information.

**Things you will need for this class in general:**

- 1) A pocket knife (any little knife will do - nothing fancy), a pair of hand pruners are also good to have but not required.
- 2) Bug Spray, 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.
- 3) I will have 10X hand lenses available for students.
- 4) Snake Chaps: If walking in the woods concerns you then these can be a source of peace of mind. They are available from SFRC. See Matt Pollard.
- 5) **A way to take notes in the woods (so a small clipboard or pocket notebook), a pack to carry supplies, pencils (work at odd angles even when wet).** Examples of waterproof field notebooks: <http://www.forestry-suppliers.com/search.asp?stext=rite%20in%20the%20rain>
- 6) Footwear and raingear. It is up to you to decide what you deem necessary to function in the woods, but we will likely encounter briars and some kind of precipitation.
- 7) A water bottle for field sessions.
- 8) A **POSITIVE ATTITUDE** sure makes learning about trees and plants a whole lot more fun.

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 instructor 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, I 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.

The following is important information you need to know when working outdoors:

- Chiggers: <http://edis.ifas.ufl.edu/pdffiles/IG/IG08500.pdf>
- Ticks & Lyme Disease: <http://edis.ifas.ufl.edu/pdffiles/MG/MG20400.pdf>
- West Nile Virus: <https://www.cdc.gov/westnile/index.html>
- Dengue Fever: <https://www.cdc.gov/dengue/index.html>
- Heat: <https://www.cdc.gov/niosh/topics/heatstress/default.html>
- Dehydration: <https://www.webmd.com/a-to-z-guides/dehydration-adults#1>

***You are yourself a Sequoia...stop and get acquainted with your brethren.***  
**(John Muir)**

***The Earth laughs with flowers.***  
**(Ralph Waldo Emerson)**

## Class and Laboratory Attendance:

As a natural resource 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/TA.** 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). Also, because we are limited for space in the vans you will need to get permission from the instructor ahead of time if you wish to attend a lab section other than the one you signed up for. University policies can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> .

## Course Activities

**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. I may make lecture slides available electronically for you to access but not until after class.

**Lecture Quizzes:** During the second part of the semester we will be learning about forests in other regions of the country and throughout the world. At the beginning of the class following each of these lectures a short in-class quiz will be given about the previous lecture (~ 5 questions). You will be expected to respond to these questions rapidly so that we can move on to the next lecture.

**Lecture Exam** will be comprehensive, covering all material presented in lecture (~50%), and reading assignments (~50%) from the beginning of the course. The format of the exam may include definitions, compare/contrast, short-answer, fill in the blanks, multiple choice, true/false, list/explain, construction of plant identification keys and maybe short essay questions and possibly an actual plant specimen to identify. The exam will be given in class during normal class time.

## Laboratory:

**Homework:** On **alternating** weeks you will do one of the following assignments (Week 7 & 8 are exceptions).

**1. “Key 3”:** After each designated weeks’ lab you will write **all** the steps to key out **three** of the plants, we learned that week. We will designate which three species you should key for your homework. You will use the Godfrey manual as your dichotomous key.

**2. “Your Key”:** After each designated weeks’ lab you will develop a dichotomous key for **all** the plants that you learned in that lab. The key should take each of the plants correctly to its species.

These assignments must be turned in the **following Monday at the beginning of class** (or Wednesday if Monday is a holiday). Late assignments will not be accepted and will receive a zero (0). You must turn in a physical copy. No submissions on Canvas or through email will be accepted. These are not group assignments; do not work together on this.

These assignments will be graded on a scale of **Full credit (10)** (Correct to a few minor errors), **Partial Credit (7.5)** (Mostly correct but with multiple minor errors – e.g. key doesn’t work, missed steps) or **No credit** (incomplete, major errors, incorrect, clearly no effort).

**Quizzes:** A quiz will be given at the beginning of **most** field sessions. In general, for each plant **on each quiz**, you will be expected to **print, correctly and legibly, the family, genus and species of the plant and answer questions** regarding the plant from information that was presented in lecture, lab, or the text and readings.

Correct spelling and presentation of scientific nomenclature (family and binomial) is essential! Regardless of the weights of laboratory or lecture quizzes, **full credit will be deducted** from each word of scientific nomenclature that is **not spelled or presented correctly!**

There is an expectation that all students can identify the plant in 30 seconds or less. I will be providing you with 2 minutes time initially and that time will be reduced over the course of the semester.

Two of the quizzes will be keying exercises, where you will identify a tree species (known or unknown) using the Godfrey Manual. You will write the steps taken to identify the plant and full credit will only be given when all steps are listed. We will make an announcement on Canvas at the beginning of the week letting you know to bring your Godfrey text. You **MUST BRING YOUR OWN COPY**. If you do not, you must borrow one from us for a loss of points. However, we do not guarantee availability. You may also borrow one from a fellow student once they finish but we will not give extra time for completion.

**There will be a total of 12 lab quizzes.** You can drop your two (2) lowest lab quiz grades. If you are absent and miss a quiz (**Excused or Unexcused**), this can count as a dropped quiz. For example, if you are participating in a conference (e.g. SAF, Wildlife Society Meeting), and you can drop the zero, and thus you are not penalized for participating in a professional development opportunity.

The remainder of the lab typically will involve learning 12 – 15 new plants and review of plants we learned in earlier labs.

There will be a field trip which will last the entire day on Saturday Oct. 26 OR Sunday Oct 27 (you select one). **You will be expected to know the plants on the field final that we learn on this trip so like any other class/lab, it is up to you to decide if you want to attend.** You will be required to sign up for **one** of these dates, the sign-up form will be on CANVAS under the **Discussions tab**. Space is limited for each day and it will be on a first come first served basis. You will be responsible for bringing lunch, snacks, water, and appropriate field gear.

### **Assigned Readings:**

You will be given assigned readings most weeks. These readings are listed on the syllabus. These may be salient articles found in magazines, journals, newspapers, books, or something given by a guest lecturer for you to read prior to their discussion. Material in all reading assignments will be used for the written exams and in-class quizzes. You can find them electronically on CANVAS (under the resources folder, “assigned readings”).

There are additional optional resources also posted in CANVAS. These are for YOUR benefit and are intended to help you learn the species. There are many field guides covering a lot of the species you will be learning. It may be helpful to print some of these out and bring them to lab.

## **Announcements:**

From time to time announcements will be posted on the course website on Canvas with updates, changes, requests, additional information, jokes, high fives etc. etc. These are official and binding. Therefore, it is your responsibility to continuously check the course site for any announcements. A copy will also be sent to your UF e-mail address. However, e-mails can get filtered/lost/deleted/vanish so this is only for your convenience. You are still responsible for checking the site.

## **Grading**

Grades will be allocated as follows:

### **Lab Quizzes (40%)**

12 total, lowest 2 dropped

### **Lecture Exam (20%)**

### **Lecture Quizzes (10%)**

### **Lab Field Final (20%)**

### **Keying Homework (10%)**

**Policy on Questioning Test Scores:** Questions on quiz or exam scores must be addressed before the end of the next class period after the quizzes or exams are returned.

**Grades** - Grading follows University standards and will be based on the following scale:

100-93.0% = A

90-92% = A-

89-87% = B+

86-83% = B

82-80% = B-

79-77% = C+

76-73% = C

72-70% = C-

69-67% = D+

66-63% = D

62-60% = D-

≤ 59% = E

**I do not round up/down so your score is your grade**

For information on current UF policies for assigning grade points, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Late Policy:** A zero will be assigned as the grade for any assignments turned in after it is due (without consent of the instructor prior to due date/time).

**Extra Credit:** Each year students fall behind during the semester and ask for an extra credit opportunity. During the first lab, I will outline the one extra credit opportunity that all students may choose to partake in or not. **Please keep in mind that any extra credit is a favor from me to you. Therefore, it is up to my discretion regarding the acceptance and worth of any extra credit submissions.**

**Lecture Topics: (I reserve the right to adjust this throughout the semester)**

| Week | Month | Date | Topic                                   |                |
|------|-------|------|---|----------------|
| 1    | Aug.  | 21   | Course Introduction                     |                |
| 2    | Aug.  | 26   | Plant Characteristic & Nomenclature I   |                |
| 2    | Aug.  | 28   | Plant Characteristic & Nomenclature II  |                |
| 3    | Sept. | 2    | Holiday                                 |                |
| 3    | Sept. | 4    | Plant Characteristic & Nomenclature III |                |
| 4    | Sept. | 9    | Build a Dichotomous Key                 |                |
| 4    | Sept. | 11   | Climate change & forests                | Martin         |
| 5    | Sept. | 16   | Tree Biology                            |                |
| 5    | Sept. | 18   | Climate and plant communities*          |                |
| 6    | Sept. | 23   | Geology and plant communities*          |                |
| 6    | Sept. | 25   | Soils and plant communities*            |                |
| 7    | Sept. | 30   | Disturbance pt. 1*                      |                |
| 7    | Oct.  | 2    | Disturbance pt. 2*                      |                |
| 8    | Oct.  | 7    | FL Community I (Flatwoods)              |                |
| 8    | Oct.  | 9    | FL Community II (Pines & Uplands)       |                |
| 9    | Oct.  | 14   | FL Community III (Forested Wetlands)    |                |
| 9    | Oct.  | 16   | Invasive Species                        | Bell           |
| 10   | Oct.  | 21   | Keying Practicum (Godfrey text)         |                |
| 10   | Oct.  | 23   | Review for Exam                         |                |
| 11   | Oct.  | 28   | Exam I                                  | D. Fox         |
| 11   | Oct.  | 30   | US Region I                             | Vogel - Boreal |
| 12   | Nov.  | 4    | Exam Review                             |                |
| 12   | Nov.  | 6    | US Region II                            | J. Smith (Aps) |
| 13   | Nov.  | 11   | No Class - Holiday                      |                |
| 13   | Nov.  | 13   | US Region III                           | Iannone        |
| 14   | Nov.  | 18   | US Region IV                            | J. Smith (SW)  |
| 14   | Nov.  | 20   | Global I                                |                |
| 15   | Nov.  | 25   | Review                                  |                |
| 15   | Nov.  | 27   | Holiday                                 |                |
| 16   | Dec.  | 2    | Global II                               |                |
| 16   | Dec.  | 4    | Wrap-Up                                 |                |

\* Recorded

**Lab Schedule: (I reserve the right to adjust this throughout the semester)**

| Week | Month | Date    | Location     | Topic                  | HW Assignment |
|------|-------|---------|--------------|------------------------|---------------|
| 1    | Aug.  | 20 & 21 |              | No Lab                 |               |
| 2    | Aug   | 27      |              | Introduction           |               |
| 2    | Aug   | 28      |              |                        |               |
| 3    | Sept. | 3       |              | How to Key *           | 3 Plants      |
| 3    | Sept. | 4       | Quiz 1       |                        |               |
| 4    | Sept. | 10      |              | Flatwoods *            | Your Key      |
| 4    | Sept. | 11      | Quiz 2       |                        |               |
| 5    | Sept. | 17      |              | Oaks                   | 3 Plants      |
| 5    | Sept. | 18      | Quiz 3       |                        |               |
| 6    | Sept. | 24      |              | Sandhill               | Your key      |
| 6    | Sept. | 25      | Quiz 4       |                        |               |
| 7    | Oct.  | 1       |              | Basin, Domes, Alluvial | 3 Plants      |
| 7    | Oct.  | 2       | Quiz 5       |                        |               |
| 8    | Oct.  | 8       |              | Bottomlands            | Your key      |
| 8    | Oct.  | 9       | Quiz 6       |                        |               |
| 9    | Oct.  | 15      |              | Upland Hardwoods       | 3 Plants      |
| 9    | Oct.  | 16      | Quiz 7       |                        |               |
| 10   | Oct.  | 22      |              | Invasive*              | Your key      |
| 10   | Oct.  | 23      | Quiz 8       |                        |               |
|      | Oct.  | 26      | Cedar Key    |                        | 3 Plants      |
|      | Oct.  | 27      | Cedar Key    |                        |               |
| 11   | Oct.  | 29      | No Lab       |                        |               |
| 11   | Oct.  | 30      | No Lab       |                        |               |
| 12   | Nov.  | 5       |              | Upland                 | No Homework   |
| 12   | Nov.  | 6       | Quiz 9       |                        |               |
| 13   | Nov.  | 12      |              | Urban                  | 3 Plants      |
| 13   | Nov.  | 13      | Quiz 10      |                        |               |
| 14   | Nov.  | 19      |              | Odds & Ends            |               |
| 14   | Nov.  | 20      | Quiz 11 & 12 |                        |               |
| 15   | Nov.  | 26      | Holiday      | STUDY!                 |               |
| 15   | Nov.  | 27      |              |                        |               |
| 16   | Dec.  | 3       | TBD          | Field Final            |               |
| 16   | Dec.  | 4       |              |                        |               |

**\*Godfrey manual required**

**Readings: (I reserve the right to adjust this throughout the semester)**

- Wk 1 How to ID a Tree (Read before Lab 1 & Bring to Lab 1)
- Wk 1 What is Dendrology (Read before Sept. 3)
- Wk 1 [www.youtube.com/watch?v=zznqS846vdE](http://www.youtube.com/watch?v=zznqS846vdE) (Watch before Lab 2)
- Wk 1 Nomenclature, Rules, Spelling and Usage
- Wk 1 TD: Nomenclature
- Wk 1 TD: Morphology
- Wk 1 Plant Characteristics Guide
- Wk2 Naming a Plant\_ Classification
- Wk 3 FW: Preface and pp. 1-9
- Wk 3 Bark Ecology
- Wk 4 Silvics Manual Vol 2: "The tree and its environment" pp. 45 – 64
- Wk 5 FW: Pine Flatwoods pp. 34-40
- Wk 6 Oaks of North America (Review)
- Wk 6 FW: Upland Hardwood Forests pp. 19-20
- Wk 6 FW: Upland Mixed Woodlands pp. 23-24; Sandhills and  
Upland Pines (Clayhills) pp. 24-28
- Wk 7 FW: Bottomland Forests and Alluvial Systems pp. 73-75
- Wk 7 FW: Hydric Hammocks pp. 71-73
- Wk 8 Botanic Definitions (Native, Endemic, Cultivar, etc.)
- Wk 8 Coevolution between invasive and native plants (Word doc)
- Wk 9 Climate change and forest species (new)
- Wk 9 FW: Scrubs pp. 29-34; Coastal Uplands pp. 42-48;  
Shell Mounds pp. 48-49; Mangrove Swamps pp.77-78  
FNAI: Scrub pp. 44-48; Coastal pp. 70-84; Salt marsh pp. 170-174; Mangrove Swamp  
pp. 175-178
- Wk 10 TBD
- Wk 11 TBD
- Wk 12 TBD
- Wk 14 TBD
- Wk 15 TBD

**Assigned Readings Abbreviations:**

FW – Florida Wildflowers by WK Taylor

TD - Textbook of Dendrology

FNAI - Florida Natural Areas Inventory

## The Legal Stuff

### 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 (the instructors take this very seriously)

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/scsr/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.

### 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/)*

### 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/)

**Concerns that cannot be resolved by communicating with the instructor can be directed to:**

<https://scsr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/>.