Syllabus for BOT 2710: Practical Plant Taxonomy

Fall Term, 2014

**Syllabus subject to change.

Catalog description

Introduction to plant taxonomy including principles of systematic botany, nomenclature, and classification, and emphasizing identification of major plant families. Students will work with common local ferns, lycophytes, gymnosperms, and flowering plants, with a focus on learning to recognize the major groups of plants anywhere in the world.

Learning objectives

- Understand principles of plant systematics, nomenclature, and classification.
- Become proficient in plant identification skills, including the use of technical keys.
- Learn to recognize major plant families in the field.
- Learn to use and understand phylogenetic trees.
- Gain a basic understanding of botanical vocabulary and terminology.
- Learn about major themes and trends in plant evolution.

Credit hours: 3 credit hours.

Pre-requisites: None.

Course meeting location and time

Lecture: Tuesday & Thursday, 2nd period (8:30-9:20am), Bartram 211 Lab: 4 sections, all held in Rolfs 105 Thursday afternoon, 6-8 periods (12:50-3:50pm) Thursday evening, 10-E1 periods (5:10-8:10pm) Friday morning, 2-4 periods (8:30-11:30am) Friday afternoon, 6-8 periods (12:50-3:50pm)

Instructor information

Dr. Emily Sessa Email: emilysessa@ufl.edu Office: 521A Bartram, phone: 352-392-1098 Office hours: Monday 11am-noon or by appointment (set up by email)

Teaching assistants

Nicolás Garcia Email: nicogarcia@ufl.edu Office: FLMNH (come to lobby) Office hours: Tues, 1:00-2:00pm or by appointment

Rebecca Stubbs Email: stubbsrl@ufl.edu Office: FLMNH (come to lobby) Office hours: Weds, 12:50-1:40pm or by appointment

Herbarium

379 Dickinson Hall. The herbarium library has useful books on plant systematics and identification and is open daily from 9am-5pm (closed during lunch). Request admittance the front desk of Dickinson.

Course website

Course materials and related information will be posted on the course E-Learning (Sakai) website at <u>http://lss.at.ufl.edu</u>. You are responsible for all announcements made in class and/ or posted on the course website for this course.

Required equipment

Dissecting kit (including dissecting needles, single-edged razor blades, and forceps). 10x hand lens and colored pencils are optional, but may prove helpful.

Textbooks

(1) Judd et al. (2007) Plant Systematics: A phylogenetic approach, Third Edition. Sinauer.

- (2) Laboratory Manual, available from Target Copy.
- (3) Castner, J. (2004) Photographic Atlas of Botany. (Obtained through lab.)
- (4) Optional: Harris & Harris (2004) Plant Identification Terminology. Spring Lake.

Grading

Based on a total of 500 points.

Total	500
Lab notebook (starting week 2, 5pts/week)	60
4 projects (25 pts each)	100
1 Lab practical (100 pts)	100
3 Exams (80 pts each)	240

Α	450 and above	C	350–369
A-	435–449	C-	335–349
B+	420–434	D+	320–334
В	400–419	D	300–319
B-	385–399	D-	285–299
C+	370–384	E	284 and below

*Note that a "C-" will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <u>http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html</u>

Optional Extra Credit: Plant collection of 15 plants, pressed, dried, identified, with labels, due on Monday of final exam week. See Appendix 2 of the text for details on preparing and labeling a herbarium specimen. Please ask TAs BEFORE starting to get instructions on where you may and may not collect (e.g. NOT on campus, city, county or state property).

Attendance Policy

Students are expected to be on time for class, and attendance in all class periods is mandatory. Please contact the instructors at least a week in advance if you must be absent. This includes absences for religious or athletic reasons.

The policies for allowable absences and make-up work follow the university attendance policies: <u>https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx</u>. The student will remain responsible for scheduling any make-up work with the instructor.

Conduct in Class

Please be courteous and do not talk during lecture. This can be distracting to other students and the instructor. Only approved electronic devices may be used in class. Approved electronic devices are laptop computers (when used to take notes or otherwise participate in classroom activities) and voice recording devices. Unapproved electronic devices include cell phones, video recorders, digital cameras and MP3 players.

UF Counseling Services

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. These resources include:

• UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.

• Career Resource Center, Reitz Union, 392-1601, career and job search services.

Many students experience test anxiety and other stress related problems. "A Self Help Guide for Students" is available through the Counseling Center (301 Peabody Hall, 392-1575) and at their web site: <u>http://www.counsel.ufl.edu/</u>.

Honesty Policy

All students registered at the University of Florida have agreed to comply with the following statement:

"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

In addition, on all work submitted for credit the following pledge is either required or implied: "On my honor I have neither given nor received unauthorized aid in doing this assignment."

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999).

For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <u>http://www.dso.ufl.edu/judicial/procedures/</u> <u>academicguide.html</u>.

Accommodation for Students with Disabilities

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <u>http://www.dso.ufl.edu/drp/services/</u>. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

Outline of Lectures and Labs

All readings refer to Judd et al., *Plant Systematics: A Phylogenetic Approach*. The August 28 reading is: Baum et al. 2005. The Tree-Thinking Challenge. *Science* 310: 979–980. On Canvas.

Date		Торіс	Reading(s)
Aug	26	Introduction to systematics and taxonomy	ch 1
Aug	28	Phylogenetics and tree thinking	Baum et al. paper
LAB	1	Intro to lab; Herbarium tour; Field techniques	Арр 2, 553-557
Sep	2	Nomenclature and classification	ch 3; App 1
Sep	4	Species and speciation, isolating mechanisms, hybridization	ch 6
LAB	2	Tools of plant identification (keys, floras, monographs, etc.); Phylogeny reconstruction; Dendrogramaceae	Арр 2, 557-563
Sep	9	Molecular systematics	ch 5
Sep	11	Introduction to the green plants (Viridiplantae)	ch 7
LAB	3	Vegetative characters; Keying exercise	ch 4, 53-61
Sep	16	Lycophytes	ch 8, 186-190
Sep	18	Ferns	ch 8, 190-206
LAB	4	Ferns & Lycophytes; Keying due	
Sep	23	Gymnosperms: cycads, Ginkgo, Gnetales	ch 8, 206-210, 220-221
Sep	25	Gymnosperms: conifers	ch 8, 210-220
LAB	5	Gymnosperms; Keying practice	
Sep	30	Flowers, fruits, and inflorescences	ch 4, 61-81
Oct	2	Exam #1 (through gymnosperms)	
LAB	6	Flowers, fruits, inflorescences	
Oct	7	Angiosperms: overview and ANITA/ANA grade	ch 9, 225-236
Oct	9	Angiosperms: magnoliids	ch 9, 236-249
LAB	7	ANITA/ANA grade, Magnoliids; Threatened vs. invasive due	
Oct	14	Angiosperms: Monocots I	ch 9, 249-306
Oct	16	Angiosperms: Monocots II	
NO L	AB	HOMECOMING	

Oct	21	Angiosperms: Monocots III	
Oct	23	Angiosperms: Monocots IV	
LAB	8	Monocots	
Oct	28	Eudicots - Ranunculales, Saxifragales, Vitales	ch 9, 307-316, 338-350
Oct	30	Core eudicots, Rosids - Fabids I: Malpighiales, Fabales, Cucurbitales	ch 9, 350-377
LAB	9	Rosids - Fabids: Malpighiales, Fabales	
Nov	4	Exam #2 (through Sapindales)	
Nov	6	Core eudicots, Rosids - Fabids II: Rosales, Fagales	ch 9, 377-410
LAB	10	Rosids, Fabids: Cucurbitales, Rosales, Fagales	
NO CLASS		VETERAN'S DAY	
Nov	13	Core eudicots, Rosids - Malvids I: Myrtales, Brassicales	ch 9, 410-423
LAB	11	Rosids, Malvids: Myrtales, Brassicales, Malvales, Sapindales	
Nov	18	Core eudicots, Rosids - Malvids II: Malvales, Sapindales	ch 9, 423-440
Nov	20	Core eudicots, Santalales, Caryophyllales	ch 9, 318-338
LAB	12	Caryophyllales, Santalales; Asterids: Ericales; Pollination due	
Nov	25	Core eudicots, Asterids - Cornales, Ericales	ch 9, 441-459
NO C	LASS	THANKSGIVING	
NO LAB		THANKSGIVING	
Dec	2	Core eudicots, Asterids, Lamiids I - Solanales, Gentianales	ch 9, 459-475
Dec	4	Core eudicots, Asterids, Lamiids II & Campanulids I - Lamiales, Apiales	ch 9, 475-505
LAB	13	Asterids: Solanales, Gentianales, Lamiales, Apiales, Aquifoliales, Asterales; Scavenger hunt due	
Dec	9	Core eudicots, Asterids, Campanulids II- Asterales	ch 9, 506-515
Dec	17	Final Exam and Lab Practical	

Important Dates

Sep 18/19	Keying exercise due	25 pts
Oct 2	Exam #1	80 pts
Oct 9/10	Threatened vs. invasives due	25 pts
Nov 4	Exam #2	80 pts
Nov 13/14	Pollination due	25 pts
Dec 4/5	Scavenger hunt due	25 pts
Dec 17	Exam #3 (Final) & Lab Practical	80 pts & 100 pts