

Local Flora (BOT 3153) and Local Flora Lab (BOT 3153L)

Fall 2009

Department of Biological Sciences, Florida International University

Lecture: Tuesdays in EC 145 9:00 am - 12:00 pm

Lab: Thursdays in OE 169 9:00 am - 12:00 pm

CE-6 link

Professor: Dr. Brad Bennett Dr. Suzanne Koptur

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Office Hours: Tuesday 12:45 - 3:45 PM Wednesdays 9:00 - 12:00 AM

Course description: An introduction to the common native, cultivated, ornamental, and exotic plant species in southern Florida. We will focus on angiosperms, gymnosperms, and (to a lesser extent) pteridophytes.

Prerequisites: One course in general biology or botany.

Objectives: To familiarize students with plants, including how to identify plants using diagnostic keys and other resources. Students will work in the field and lab at FIU and other local sites.

Requirements: Successful students will attend class (**on time**) with appropriate supplies, learn the botanical basics in the first few weeks of the course, then embark on a journey to becoming a 'plant person'. Skills will be tested with quizzes and exercises in class. Students will write a research paper on topics of their choice, as approved by the professors. A library orientation will help identify suitable resources. Papers will be screened using Turn-it-in.com. After completing this course, students should be able to recognize more than 200 local plant species and they should have the skills to identify unknown species.

Policy Statement: Beepers and cell phones **MUST** be turned off during all classes, field trips, and labs. During class, laptop computer use will be limited to course related activities (e.g., **NO** Facebook, Twitter, or email). Students are expected to behave respectfully and professionally at all times. Disruptive students will be asked to leave. Students must adhere to the highest standards of academic behavior; cheating will not be tolerated.

Grading:

Lecture - one midterm and one final exam (25% each), one 8-10-page paper (25%) and in-class quizzes (25%). Readings from textbooks (which will also be used for reference in the lab and field), and articles will be posted on the course website.

Lab - one midterm exam (20%), one final exam (20%), quizzes (20%), plant collection (20%), and lab notebook (20%). A = 90 - 100%, B = 80 - 89%, C = 70 - 79%, D = 60 - 69%, F = < 60%.

NO make up exams. **NO** extra credit.

Supplies: **(1) Hand lens** – Each student will need a hand lens (10X is best) or magnifying glass to see details of flowers and surfaces not visible to the unaided eye. Vendors are listed on the last page of this syllabus. **(2) Field notebook** – Each students will need field notebook for taking lab and field notes. Notes should be written with a pencil or waterproof pen. **(3) Index cards** – These are not required but are useful for learning plant family characteristics. **(4) Metric Ruler** – A metric scale ruler is needed for measuring plant parts. **(5) Field Clothes** - We will be in the field at least part of every day, lecture and lab! **Dress appropriately** (wear field clothes and sturdy shoes, i.e., no flip flops). Students should bring a hand lens (or magnifying glass), sunscreen and insect repellent, hat, water, field notebook, species list (if appropriate), and text books.

Required Textbooks:

Harris, J.G. and M.W. Harris. 2001. Plant identification terminology: an illustrated glossary. 2nd edition. Spring Lake Publishing, Spring Lake, Utah. ISBN: 0-9640221-5-X [HH]

Wunderlin, R. and B.F. Hansen. 2003. A guide to the vascular plants of Florida. 2nd edition. University Press of Florida, Gainesville, FL. ISBN: 0-8130-2632-6. [WH]

Other Useful References:

Hammer, R.L. 2002. Everglades Wildflowers. Falcon. ISBN: 0762710896

Hammer, R.L. 2004. Florida Keys Wildflowers. Falcon. ISBN: 0-7627-2569-9

Judd, W. S., C.C. Campbell, E.A. Kellogg, P.F. Stevens, and M. J. Donoghue. 2002. Plant Systematics: A Phylogenetic Approach, 2nd ed. Sinauer Associates, Sunderland, MA. ISBN: 0-87893-403-0.

Tomlinson, P.B. 2001. The Biology of Trees Native to Tropical Florida, 2nd Edition. Harvard Printing and Publication Services, Amherst, MA

Zomlefer, W. 1994. Flowering plant families. University of North Carolina Press, Chapel Hill, NC. ISBN: 0-8078-4470-5.

Schedule:

Date	Day	Venue	Topic	Readings
25 Aug	T	Lecture	1. How plants are put together I - Vegetative Parts (B) Campus Plants	HH 121-145
27 Aug	R	Lab	Vegetative characteristics Wertheim Conservatory Tour	
01 Sep	T	Lecture	2. How plants are put together II – Reproductive Parts (B) Plant Species Review	HH 146-184
03 Sep	R	Lab	Flowers and Fruit, Cones, Sporangia	
08 Sep	T	Lecture	3. Florida Plant Families I (B) Library	
10 Sep	R	Field	FIU Preserve (meet in Lab)	
15 Sep	T	Lecture	4. Florida Plant Families II (B) - Paper topic due Plant Species Review	
17 Sep	R	Field	Fairchild Tropical Botanical Garden	
22 Sep	T	Lecture	5. Florida Plant Families III (B)	
24 Sep	R	Field	Shark Valley (carpool - meet at Shark Valley)	
29 Sep	T	Lecture	6. Florida Plant Families VI (B) Plant Species Review	
01 Oct	R	Field	Castellow Hammock (carpool - meet at CH)	
06 Oct	T	Lecture	7. Introduced plants, exotics, weeds, pest plants (K) Plant Species Review. Paper outline due	
08 Oct	R		No Class – Saturday Field Trip	
10 Oct	S	Field Trip	ENP (All day) – meet at FIU 7:00 AM	
13 Oct	T	Lecture	8. Southern Florida Plant Communities (K) Plant Species Review	
15 Oct	R	Lab	Mid-term Lab and Lecture Exams	
20 Oct	T	Lecture	9. History of Plant Taxonomy (B) – Annotated bibliography due	
22 Oct	R	Field	Coral Reef Pine Rockland (carpool - meet at CRPR)	Koptur 2006
27 Oct	T	Lecture	10. Principles of Nomenclature (B) Plant Species Review	Bennett & Balick 2008
29 Oct	R	Lab	No Class – Saturday Field Trip	
31 Oct		Field Trip	Jonathan Dickinson / J.D. MacArthur State Parks (All day) meet at FIU 7:00 AM	
03 Nov	T	Lecture	11. History of Taxonomic Botany in Florida (B) Plant Species Review	
05 Nov	R	Lab	Field – Matheson Hammock (carpool - meet at MH)	
10 Nov	T	Lecture	12. Rare, threatened, and endangered species (K) Plant Species Review	Pinto-Torres and Koptur 2009
12 Nov	R	Lab	No Class – Saturday Field Trip	
14 Nov		Field Trip	Broward/Palm Beach County Parks (All day) – meet at FIU 7:00 AM	
17 Nov	T	Lecture	13. Florida Ethnobotany (B) Plant Species Review	
19 Nov	R	Lab	Work on Collections	

24 Nov	T		NO CLASS – WORK ON COLLECTIONS	
26 Nov	R		NO CLASS – THANKSGIVING BREAK	
01 Dec	T	Lecture	14. Plants and the local economy (K) Plant Species Review Paper due	
03 Dec	R	Lab	Work on Collections	
08 Dec	T		Final Exams, Collection and lab notebook due	

Vendors for hand lenses:

http://www.compleatnaturalist.com/mall/vantage_doublets.htm

OP-002-054	Vantage 15mm Doublet	\$9.95
OP-002-003	Coddington 10x Magnifier	\$26.00
OP-002-005	Hastings 10x Triplet Hand Lens	\$39.95

<http://www.benmeadows.com/search/hand+lens/20694/>

103184	Doublet 10X Loupe Magnifiers	\$8.10
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<http://www.forestry-suppliers.com/>

61280	Bausch & Lomb Coddington 10x	\$21.00
61494	Coddington Type Double Lens Magnifier 10x	\$9.50
61240	Bausch & Lomb Hastings Triplet Magnifier 10x	\$34.00

Useful websites for Local Flora:

Angiosperm Phylogeny Group - <http://www.mobot.org/MOBOT/research/APweb/>

FTG Virtual Herbarium - <http://www.virtualherbarium.org/>

W3 Tropicos database [Information on published plant names - place of publication, author, etc.] - <http://www.tropicos.org/>

International Plant Names Index [An amalgamation of the Gray Index, Index Kewensis, and the Australian Plant Names Index] - <http://www.ipni.org/>

USDA GRIN [Genetic Resources Information Network] Taxonomy for Plants - http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl