

Local Flora (BOT 3154) and Local Flora Lab (BOT 3154L)

Fall 2016

Department of Biological Sciences, Florida International University

Lecture: Saturday - 9:30 AM - 12:15 PM

Where: Fairchild Tropical Botanic Garden Classroom in Burns Building in the Science Village

[Note: Free admission to Fairchild for duration of course, normally \$25 per visit]

Lab: Saturdays - 12:45 PM - 03:30 PM

Where: Fairchild Tropical Botanic Garden Classroom in Burns Building in the Science Village and Field Sites

Moodle link: <http://ecampus.fiu.edu>

Professor: Dr. Bradley C. Bennett

Office: HLS 319A

Phone: 305-348-3586

Email: bennett@fiu.edu

Office Hours: Tuesday 12:00 - 3:00 PM or by appointment

Course description: An introduction to the common native, cultivated, ornamental, and exotic plant species in southern Florida. The major focus is angiosperms and gymnosperms and, to a lesser extent, pteridophytes.

Prerequisites: One course in general biology or botany.

Objectives: To familiarize students with the plants of southern Florida, 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: Attendance in both lab and lectures is mandatory. Punctuality is expected. Please be seated and ready to begin classes at 9:30 AM, labs at 12:45 PM field trips at the designated time. You should have the appropriate books and supplies (including a hand lens) at all class functions. Skills will be tested with quizzes and class exercises. You will write a 10-page research paper on one species found in southern Florida, as approved by your instructor. After completing this course, you should be able to identify more than 250 local plant species (including common names, scientific names, family, and habitat) and you should have the skills to identify unknown species.

Policy Statement: Cell phones **MUST** be turned off during all classes, field trips, and labs. During class, laptop computer use is limited to course related activities (i.e., **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 (20% each), class assignments (20%), quizzes (20%), and attendance (20%). 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%), attendance (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.

Early Alert: To help you succeed in your academic courses, FIU utilizes an Early Alert system. Instructors are now able to notify students' academic advisors if there are concerns about class performance. If an alert is submitted, your academic advisor will send you a message via your Student Dashboard (accessed via your MYFIU page) to discuss ways to improve your performance. Please respond to any communication you receive from your academic advisor about an early alert. The goal of this program is to help you by identifying any issues as early on as possible and working to address them.

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 and species. **(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, 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: 9780964022164 [HH]

Wunderlin, R. and B.F. Hansen. 2011. A guide to the vascular plants of Florida. 3rd edition. University Press of Florida, Gainesville, FL. ISBN: 9780813035437 [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 | Time | Venue | Topic |
|-------------|-------------|--------------|--|
| 27 Aug | Morning | Lecture | 1. Plant Morphology I - Vegetative Parts |
| | Afternoon | Lab | Vegetative Morphology; FTG |
| 03 Sep | Morning | No class | Labor Day holiday |
| | Afternoon | No class | Labor Day holiday |
| 10 Sep | Morning | Lecture | 2. Plant Morphology II - Reproductive Parts; Plant Species Review |
| | Afternoon | Lab | Floral & Fruit Morphology; FTG |
| 17 Sep | Morning | Lecture | 3. Florida Plant Families I; Plant Species Review |
| | Afternoon | Field | Matheson Hammock |
| 24 Sep | Morning | Lecture | 4. Florida Plant Families II; Plant Species Review |
| | Afternoon | Lecture | 5. Florida Plant Families III; Plant Species Review |
| 01 Oct | Morning | Field | Bill Sadowski Park, Deering Estate North |
| | Afternoon | Field | Coral Reef Park |
| 08 Oct | Morning | Lecture | 6. Florida Plant Families VI; Plant Species Review |
| | Afternoon | Lecture | 7. Florida Phytogeography I; Plant Species Review |
| 15 Oct | Morning | Field | ENP (All day) – meet at ENP Visitor’s Center at 8:00 AM |
| | Afternoon | Field | ENP (All day) – meet at ENP Visitor’s Center at 8:00 AM |
| 22 Oct | Morning | Lecture | Mid-term Lab and Lecture Exams |
| | Afternoon | Lab | FTG |
| 29 Oct | Morning | Field | Jonathan Dickinson (All day) meet at JDSP at 8:30 AM |
| | Afternoon | Field | Jonathan Dickinson (All day) meet at JDSP at 8:30 AM |
| 05 Nov | Morning | Lecture | 8. Florida Phytogeography II; Plant Species Review 9. Southern Florida Plant Communities I |
| | Afternoon | Lecture | FTG |
| 12 Nov | Morning | Field | Palm Beach Co. Parks (All day) - meet at Red Reef at 8:00 AM |
| | Afternoon | Field | Palm Beach Co. Parks (All day) - meet at Red Reef at 8:00 AM |
| 19 Nov | Morning | Lecture | 10. Southern Florida Plant Communities II; Plant Species Review 11. History of Plant Taxonomy; Plant Species Review |
| | Afternoon | Lecture | FTG |
| 26 Nov | Morning | No class | Thanksgiving Holiday |
| | Afternoon | No class | Thanksgiving Holiday |
| 03 Dec | Morning | Lecture | 12. Principles of Nomenclature 13. History of Botany in Florida |
| | Afternoon | Lecture | Plant Species Review |
| 10 Dec | Morning | Lecture | Lecture Final |
| | Afternoon | Lab | Lab final |

Useful Websites for Local Flora:

Atlas of Florida Vascular Plants - <http://www.florida.plantatlas.usf.edu/>

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

The Plant List - <http://www.theplantlist.org/>

| Venue | Date | Habitat | | | | | | | | |
|--------------------------|--------|---------|----|----|----|----|----|----|----|----|
| | | Hm | Rk | Ma | WP | Sw | Sc | Mn | Du | Fw |
| FTBG | 27 Aug | | X | X | | | | | | |
| FTBG | 10 Sep | X | | | | | | X | | |
| Matheson Hammock | 17 Sep | X | | X | | | | X | | |
| Bill Sadowski | 01 Oct | X | | | | | | | | |
| Deering Estate North | 01 Oct | | | | | | | X | | |
| Coral Reef | 01 Oct | | X | | | | | | | |
| Everglades National Park | 15 Oct | X | | X | X | X | | | | |
| FTBG | 22 Oct | X | | X | | | | X | | |
| Jonathan Dickinson | 29 Oct | | | | X | | X | | | X |
| FTBG | 05 Nov | | | | X | | X | | | X |
| Broward/Palm Beach | 12 Nov | X | | X | X | X | X | | X | |
| | | 6 | 4 | 3 | 4 | 2 | 2 | 2 | 1 | 1 |

Field Trip Sites

1. Matheson Hammock

Date: 17 Sep

Time: 9:30-12:15

Meeting Location: Fairchild Tropical Botanical Garden

Address: 10901 Old Cutler Road, Coral Gables, FL 33156

2. Bill Sadowski Park & Deering Estate North

Date: 01 Oct

Time: 9:30-12:15

Meeting Location: Bill Sadowski Park

Address: 17555 SW 79th Ave, Palmetto Bay, FL 33157

3. Coral Reef Park

Date: 01 Oct Sep

Time: 12:45 – 3:30

Meeting Location: Coral Reef Park

Address: 7895 SW 152nd St, Palmetto Bay, FL 33158

5. Everglades National Park

Date: 15 Oct

Time: 8:00-4:30

Meeting Location: Everglades National Park Visitor Center

Address: 40001 State Rd. 9336, Homestead, FL 33034

6. Jonathan Dickinson State Park (Martin County)

Date: 29 Oct

Time: 8:30-4:30

Meeting Location: Jonathan Dickinson State Park – parking east of entrance gate

Address: 16450 S.E. Federal Highway, Hobe Sound, FL 33455

7. Broward/Palm Beach Field Trip

Date: 12 Nov

Time: 8:00-4:30

1st Meeting Location (8:00-9:30): Gumbo Limbo Nature Center, South Parking Lot

Address: 1400 North Ocean Boulevard, Boca Raton, FL 33432

2nd Meeting Location (10-11:00): Yamato Scrub

Address: 701 Clint Moore Rd, Boca Raton FL 33847

3rd Meeting Location (11:30-2:00): Arthur R. Marshall Loxahatchee National Wildlife Refuge

Address: 10216 Lee Road, Boynton Beach FL 33473

4th Meeting Location (2:30-4:30): Fern Forest Nature Center (Broward County)

Address: 201 Lyons Road South, Coconut Creek, FL 33063

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 |
|--------|------------------------------|--------|

<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 |