

EVR 4596L – Applied Field Ecology
Spring 2011
Instructor: Dr. Michael Ross (OE-234)
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The course objectives are (1) to learn in a hands-on way about the major south Florida ecosystems and their important management issues, and (2) to gain experience with sampling strategy, field methods, and effective interpretation and reporting of ecological data for management and scientific purposes; and (3) to successfully carry out a group project contributing to existing knowledge of the landscape ecology of a portion of Miami-Dade County.

The class is organized around six labs. Labs 1-3 and 5-6 address major south Florida ecosystems: hardwood hammocks, pine forests, mangrove swamps, tree islands, persistently flooded marshes, and seasonally flooded prairies. You will learn to recognize the major south Florida plants and some of the charismatic avifauna, and become familiar with the fundamentals of their ecology. You will also learn some essential methods regarding the design, processing, and interpretation of data collected for management purposes, following the sequence in the textbook “Designing field studies for biodiversity conservation”, by Peter Feinsinger, available in the University Bookstore. In Lab 4, the class will collect data about ecosystems of Bill Baggs State Park as well as vegetation within the surrounding Village of Key Biscayne. In collaboration with investigators from FIU’s ULTRA-Ex (Urban Long-term Research Area - Exploratory) project, students will develop a presentation about the State Park and its role in the human-created landscape of the island over time.

Grading will be based on exams, lab reports, a class presentation, and attendance and active participation in lab and lecture. The midterm exam (25% of semester grade) will be short-answer and multiple choice, based primarily on topics brought up in the Feinsinger text, as well as other material presented in class. The final exam (25% of grade) will focus on identifications of plant species in the natural and semi-natural areas on campus, but will also include a set of short-answer questions based on material presented in lecture since the midterm.

Reports for Labs 1-2 and 6 (3% each of semester grade) will consist of short (1-2 page) summaries of the ecology and/or management issues of the areas we visit, and the species of plants and animals we encounter. Reports for Labs 3 and 5 (10% each) will consist of an expanded description of the objectives, methods, results, and interpretation of the research studies we undertake on each field trip. For Lab 4 (15% of grade), each student will present orally on one aspect of the Key Biscayne project described above. Finally, attendance and active participation in lectures throughout the semester will be worth 6% of the semester grade.

Attendance at the Saturday labs is mandatory. Field clothes (long pants and shirt, shoes that work in the mud), sunblock, water, lunch, and insect repellent are also a must for the trips.

Any impropriety (e.g., cheating, plagiarism) on exams constitutes grounds for failing the course. In cases where students work on commonly collected data (e.g., Labs 3 and 5), groups may team up on data analysis. However, the text of any lab report must be your own.

I am available in the office till ~7 PM most days. If the door is open feel free to stop in, but as a rule it’s best to call first.

Lectures & In-classroom sessions
Tuesday 12:30 – 1:45 PM

Date	Lab	Topic	Reading	Assignment
Jan 11	1	Class organization (in-class, labs, group project)		
Jan 18	2	The inquiry process in applied ecology; Castellow Hammock history	Feinsinger, Chapters 1-3	
Jan 25	3	Review core nested sampling results from Lab 1		
Feb 1	4	Experimental design; Mangrove pilot project	Feinsinger, Chapters 4	Lab 1 report due
Feb 8	5	Statistical inference	Feinsinger, Chapter 5	
Feb 15	6	Indicators and targets, species diversity; Lab 3 preview	Feinsinger, Chapters 8-9	Lab 2 report due
Feb 22	7	Key Biscayne lab preview (Zulich, Ross)		
Mar 1	8	Review Lab 3 results		
Mar 8		Midterm Exam		Lab 3 report due
Mar 15		Spring Break		
Mar 22	9	Urban ecosystems (Hollander, Harlem, Ross)	Pataki et al. (2011)	
Mar 29	10	Communities & gradient analysis; Review Lab 5 results	Ludwig & Cornelius 1987	
Apr 5	11	Groups meet to prepare presentation		Lab 5 report due
Apr 12	12	On-campus exercise; surveying & orienteering		
Apr 19	13	Class presentation: Key Biscayne project		Lab 6 report due
April 25-29 (??)		Final Exam		

Lab schedule**All day Saturdays, to conclude by 3 PM**

Date	Topics	Location
Jan 22	Lab 1: Hardwood hammocks	Castellow Hammock (Crocodile Lakes NWR)
Feb 5	Lab 2: Coastal wetlands	Biscayne National Park: North of C-103
Feb 19	Lab 3: Pine forests	Goulds pine forest
Feb 26	Lab 4: Natural areas in urban landscapes: dune restoration	Bill Baggs State Park and adjacent areas, Key Biscayne
March 26	Lab 5 : Seasonally flooded marl prairies	ENP: West of Long Pine Key
April 16	Lab 6: Tree islands & Semi-permanently flooded freshwater marshes	ENP: Shark Valley tram road
April 23	Optional species review for final	Ross house: 23440 SW 120 Ave, Princeton, FL 33032