

**FNR 3410**

**Natural Resource Sampling**

**Spring, 2006**

Sec. 5118

Thursday 6 – 8 PM & scheduled Saturdays 9 AM – 1 PM

Dr. Michael G. Andreu  
Asst. Prof. of Forest Systems  
[mandreu@ufl.edu](mailto:mandreu@ufl.edu)  
813-757-2274

Dr. Steve Johnson  
Asst. Prof. Wildlife Biology  
[johnsons@wec.ufl.edu](mailto:johnsons@wec.ufl.edu)  
813-757-2273

Office: Room 110 UF-IFAS, Plant City

**Measure what can be measured, and make measurable what cannot be measured.**  
Galileo

**The Information you have is not the information you want.**  
**The Information you want is not the information you need.**  
**The Information you need is not the information you can obtain.**  
**The information you can obtain costs more than you want to pay.**  
- Peter Bernstein

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

- (1) Understand the principles of acquiring data for various components of our natural resources.
- (2) Use statistics to quantitatively describe and interpret the measured resource to draw conclusions and make decisions.
- (3) Properly use common tools to measure natural resource components: herbaceous vegetation, tree canopy, vertebrates, and various abiotic parameters.

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

Class Texts:

1) Magnusson, W. E. and G. Mourao, 2004. Statistics without Math Sinauer Associates, Inc. ISBN: 85-902002-2-1

2) Elzinga, C. L., D.W. Salzer, J. W. Willoughby, Measuring and Monitoring Plant Populations BLM Technical Reference 1730-1  
[http://www.cnr.uidaho.edu/range357/extra-refs/Sample\\_Size\\_Estimates\\_Measuring&Monitorin.pdf](http://www.cnr.uidaho.edu/range357/extra-refs/Sample_Size_Estimates_Measuring&Monitorin.pdf)

**Class Schedule:**

	<b><u>Instructor</u></b>
<b>January 12: Introduction</b>	<b>MGA/SAJ</b>
<b>January 19: Review of basic statistics</b>	<b>MGA</b>
<b>January 26: Statistics continued</b>	<b>SAJ</b>
<b>⊗February 2: Principles of sampling</b>	<b>SAJ</b>
<b>February 9: Introduction to spatial tools (Maps, Aerial Photos)</b>	<b>MGA</b>
<b>February 16: Spatial tools (GIS, GPS)</b>	<b>MGA</b>
<b>⊗February 23: Vegetation sampling methods</b>	<b>MGA</b>
<b>March 2: Indices and other analysis methods</b>	<b>SAJ/MGA</b>
<b>⊗March 9: Timber measurements</b>	<b>MGA</b>
<b>March 16: Spring Break – No class</b>	
<b>March 23: Abiotic parameters</b>	<b>TBA</b>
<b>⊗March 30: Sampling amphibians &amp; reptiles</b>	<b>SAJ</b>
<b>April 6: Birds and mammals</b>	<b>SAJ</b>
<b>⊗April 13: Mark &amp; re-capture, population estimates</b>	<b>SAJ</b>
<b>April 20: Data handling and management</b>	<b>MGA</b>
<b>April 27: Final exam</b>	<b>MGA</b>

⊗ = quiz dates. Quizzes will be administered the first 10 minutes of class. **BE PUNCTUAL** or you may not have enough time to finish the quiz

**Laboratory:**

Labs will be held on Saturdays from 8:30 AM – 1:30 PM unless otherwise indicated. Labs will involve learning techniques for sampling the flora & fauna and analyzing the data collected. We will meet at English Creek for all field sessions, so be dressed appropriately.

**Lab Schedule:**

	<b><u>Instructor</u></b>
<b>January 14: Intro. to English Creek &amp; Measurements (3 hrs)</b>	<b>MGA</b>
<b>January 28: Measurement and analysis of basic tree data *</b>	<b>MGA/SAJ</b>
<b>February 11: Mapping and seedling count *</b>	<b>MGA</b>
<b>February 25: Vegetation Sampling (Understory)</b>	<b>MGA</b>
<b>March 11: Vegetation Sampling (Overstory) *</b>	<b>MGA</b>
<b>March 25: Animal sampling 1 &amp; Abiotic Parameters</b>	<b>SAJ &amp; TBA</b>
<b>April 7 – 9: Field trip to Katharine Ordway Preserve</b>	<b>SAJ</b>
<b>April 15: Animal sampling 2 *</b>	<b>SAJ</b>

\* Indicates lab reports to be turned in by 7:00 PM on the second Monday following that lab. It is up to you to arrange to have it in on time. Electronic submission is preferred.

**Field Trips:**

There is one required field trip to the Katharine Ordway Preserve, near Gainesville—Friday, 7 Apr. to Sunday, 9 Apr. This is a joint class trip with the Wetlands Wildlife Course. Details about this trip will be discussed in class.

## **Examinations/Graded Exercises**

**Lab Reports:** For five designated labs you will be required to turn in a lab report. While the format will vary depending on the lab exercise, these lab reports should be presented professionally and scientifically. Details about length and content will follow for each lab exercise. **If you do not participate in a lab field session you can not turn in a lab report.**

**There will be 5 in-class quizzes.** Quizzes are not cumulative, and will cover material that has been presented since the previous quiz. These quizzes will be short (~10 minutes) and are intended to ensure that students are keeping up with the work. **Do not arrive late for quizzes.**

**The final exam** will be comprehensive; covering all material presented in lecture, laboratory, and reading assignments from the beginning of the course. The format of this exam may include definitions, compare/contrast, short answer, fill in the blanks, multiple choice, true/false, list/explain, calculations and essay questions. The final exam (2 hours) will be given in class April 27, 2006.

**Participation:** Attendance does not equal participation. Participation is judged based on professional demeanor and preparedness for class and active involvement in class discussion and field sessions.

## **Grading**

Grades for the course will be based on a total of **250** points, allocated as shown below.

Lab reports 5 @ 20 points each = 100 points

Due dates:

- 1) February 6, 7 PM
- 2) February 20, 7 PM
- 3) March 20, 7 PM
- 4) April 17, 7 PM
- 5) April 24, 7 PM

Quizzes 5 @ 10 points each = 50 points

Exams 1 @ 75 points = 75 points

Participation 0 – 25 points

Total = 250 points

Grades: **A** (90%>), **B+** (87-89.9%), **B** (80-86.9%), **C+** (77-79.9%), **C** (70-76.9%), **D** (60-69.9%), **E** (<60%) Final grades are based on percentages of total points possible. The exam and quiz scores are not curved.

## **Class and Laboratory Attendance**

As a natural resources 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.** In general, no make-up tests or quizzes will be given for absence from the exams or quizzes (of course some situations merit exceptions—hurricanes, death in the family, illness). **You cannot make up a missed lab!**

### **Things you will need for this class:**

- 1) A pocket knife (any little knife will do - nothing fancy). However, a Leatherman® tool is a great investment.
- 2) Bug Spray—MGA personally uses some kind of mosquito spray to put on exposed skin AND Repel Permanone for ticks and chiggers to put on clothes (never bare skin). SAJ gets bug bit. (Wal-Mart, Target etc. should have all the selection you need)
- 3) Snake Chaps: We don't think you will need these but if walking in the woods concerns you then they can be a source of peace of mind. They also provide good protection from briars. Examples of what you might want:  
<http://www.forestry-suppliers.com/search.asp?stext=snake%20chaps>
- 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, ants and some kind of precipitation. No open toed sandals! Get yourself a good pair of field boots.
- 7) A water bottle for field sessions.
- 8) A positive attitude sure makes learning about natural resources 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.

Chiggers: <http://www.conservation.state.mo.us/nathis/arthopo/chiggers/>

Ticks & Lyme Disease: <http://www.aldf.com/Lyme.asp>

West Nile Virus: <http://www.floridahealthstat.com/westnile.shtml>

***Academic Honesty (We take this very seriously)***

Should a member of the class be suspected of obtaining information from inappropriate sources during a quiz or written exam, the student will be given a verbal reprimand and a grade of -0- on the particular exercise in question. In addition, a written description of the incident will be placed in the student's permanent file. In the event of a second occurrence, the University of Florida policies regarding these activities will be followed.

As a result of completing the registration form at the University of Florida, every student has signed 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."

**Keep in mind that no grade ever justifies sacrificing your potential professional career.**

***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.

***Incompletes*** will be dealt with according to University of Florida undergraduate catalog policy. No special projects will be given for raising low scores, so begin by taking your first assignments and tests seriously.

***UF Counseling Services:*** Resources are available on campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall  
392-1575, personal and career counseling
2. Student Mental Health, Student Health Care Center,  
392-1171, personal counseling
3. Center for Sexual Assault//Abuse Recovery & Education (CARE), Student  
Health Care Center, 392-1161 (ext 1-6), sexual counseling
4. Career Resource Center, Reitz Union  
392-1601, career development assistance and counseling