

# Syllabus

## SWS 5115

### Environmental Nutrient Management

#### Course Description: SWS 5115

The prerequisite for this course is SWS 3022 or SWS 5050. In this course chemical properties of plant nutrient sources will be discussed to familiarize students with materials use and their status as a non-renewal natural resource. Methods and rates of application, effects on soil reactions, plant requirements and their environmental effects on the soil and water ecosystem are discussed to identify impacts of specific plant nutrient sources.

#### Course Objectives

1. To familiarize the student with the different nutrient sources, plant nutrient terminology, and chemical properties of commercial plant nutrient sources as they relate to their utilization and environmental impact.
2. To acquaint the student with the basic chemical reactions of plant nutrient sources with the soil and the environmental fate of the nutritional elements whether it be loss by leaching, plant uptake, fixation or soil retention.
3. To acquaint the student with nutrient management practices which minimize environmental impacts of plant nutrient application.

#### Course Format

Internet-based with bulletin board, chat room and e-mail support. The course will be offered in independently graded modules on a timed basis. All students will progress through the course together, taking exams as they complete each module.

#### Instructor

##### Dr. Samira Daroub

Dr. Daroub is a Professor in the Soil and Water Science Department and works in Belle Glade and Ft. Lauderdale, Florida.  
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## Textbook and Readings

Students are required to purchase the following text book *Soil Fertility and Fertilizers*, 7th edition. Published in 2005 by Havlin, Beaton, Tisdale and Nelson. ISBN: 0130278246

## Delivery Method: Web

Out-of-state students should consult the UF Soil and Water Science Department Web site for current tuition information <http://soils.ifas.ufl.edu/distance/>

**Online meetings /Chat sessions:** Thursdays 6-7: 30 pm using Adobe Connect. For an orientation how to use Adobe Connect please visit

<http://soils.ifas.ufl.edu/distance/resources.html> and scroll down to Adobe Connect Information.

## Course Web Site: ♦

<http://lss.at.ufl.edu/> , Login into E-learning using your Gatorlink username and password. If you are registered for the course, you will see it listed under E-learning. Students must login to class website within the first 2 weeks of class.

## Grading System

Module	% of 100 points
Module I	30
Module II	25
Module III	25
Problem Sets	20
Total	100

## Final Grade Determination

- A = 90+
- A- = 87-89
- B+ = 84-86
- B = 80-83
- C+ = 77-79
- C = 70-76
- D+ = 67-69
- D = 60-66
- E = <60

## Academic Honesty

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."

### **University of Florida Counseling Services**

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

1. University Counseling Center, 301 Peabody Hall, (352) 392-8452, personal and career counseling
2. Student Mental Health, Student Health Care Center, (352) 846-1030, personal counseling
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, (352) 392-1161, sexual assault counseling
4. Career Resource Center, Reitz Union, (352) 392-1601, career development assistance and counseling

### **Students with Disabilities**

Students requesting classroom accommodation must first register with the Dean of Students Office. This office will provide documentation to the student who must then provide this documentation to the course instructor.

### **Software Use**

All students of the University are required 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 violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

We, the members of the University of Florida, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

### **Dates**

<b>Events</b>	<b>Fall 2012</b>
Classes Begin	August 22
Classes End	December 5
Finals	Dec. 8, 10-14
Holidays - no classes	Sept. 3, Labor Day
	Nov. 9-10 Homecoming (No class Fri/Sat)
	Nov. 12, Veterans Day
	Nov. 21-24, Thanksgiving

<b>Week</b>	<b>Lecture Topic</b>	<b>Chat Date- Thursdays</b>
1	<b>Introduction</b> Introduction; Fertilizer Labeling & Consumption	<b>Announced on detailed syllabus on class website at start of semester</b>
2	<b>Nitrogen</b> N-Cycle and Inorganic/Organic Sources of N	
3	Slow Release N Fertilizers and Nitrification/Denitrification	
4	N-Uptake by Plants; Soil and N-Assoc. Reactions	
5	<b>Environmental Issues with Nitrogen</b> Fate of N Fertilization and Leaching Loss	
6	N-BMPs and TMDLs	
	<b>EXAM I:</b> Exam available on-line Oct 1-Oct 4	
7	<b>Phosphorus Chemistry</b> Role of P in plant nutrition; Soil phosphorus reactions	
8	<b>Phosphorus</b> P fertilizers and reaction in soils; Factors affecting P availability	
9	<b>Environmental Issues with Phosphorus</b> P and Environmental Quality; Soil test P	
10	<b>Potassium</b> Functions, soil sources and materials	
11	Reactions of K fertilizers with soil	
12	<b>EXAM II:</b> Exam available on-line Nov 4-9	
13	<b>Soil Acidity and Liming</b> <b>Ca, Mg, and Sulfur</b> Sources, forms, and reactions of Ca, Mg and S Environmental issues with sulfur	
14	<b>Organic Farming</b>	
15	<b>Micronutrients and Trace Elements</b> General Cycle and reactions of micronutrients; Micronutrient Fertilization; Environmental issues with trace elements	
16	<b>EXAM III</b>	