

Science, Society and Sustainable Food Systems

SOILS 150, 3 Credits

Fall 2005

Welcome to Soils 150! The class will be a combination of lecture, discussion, hands-on activities, and guest presentations, and **includes a required hands-on practicum session each week of the term.** (This is a separate SLN in METRO – need to register for both.) Meeting times and place are below.

Prerequisites: There are no pre-requisites for the class, except for an open mind!

Instructor: Cathy Perillo, Ph.D., CPSSc Crop and Soil Sciences, Johnson Hall 229

Contact info: 509-335-2851, cperillo@wsu.edu

(I check my email frequently, but due to the sheer volume of email I've been receiving lately, please call me if you need to talk right away.)

Office Hours: Mon 9-10 am and by appt. *Feel free to drop in at any time, but it is advisable to set up an appointment to ensure my availability ☺.*

Teaching Assistant: Kristy Ott, Graduate student, Crop and Soil Sciences

Phone: 509-335-7817 **E-mail:** kristy_ott@mail.wsu.edu

Office hours: _____

Course Logistics:

- **Lecture/Discussion:** T,Th 12:10-1pm, Johnson 204 (WSU-Pullman)
- **Practicum session:** Wed 1:10-3pm in Johnson 204 (and other places).
- **Class web site:** <http://classes.css.wsu.edu/soils150/>

Required Text/Materials

(Available at the Bookie)

1. Perillo, Cathy and Rick Parker. 2005. **Assignments, Activities & Practicum Handbook.** Soils 150 – Science, Society and Sustainable Food Systems.
This manual contains most of the assignments, experiments, and other handouts for the class. A three-ring binder is strongly recommended to hold these materials and organize your notes and handouts.
2. Dubbin, William. 2001. **Soils.** The Natural History Museum. London. 110 pp. ISBN: 0-565-09150-6. Alternate (listed on Amazon.com): Iowa State Press ISBN 0565091484
3. Horne, James E., and Maura McDermott. 2001. **The Next Green Revolution – Essential Steps to a Healthy, Sustainable Agriculture.** Food Products Press (an imprint of The Haworth Press, Inc.). Binghamton, NY. 312 pp. ISBN: 1-56022-886-5 (paperback)
4. **Soils 150 Course Reader.** *Contains a variety of readings, including selected book chapters, popular press articles, and scientific research papers*

(There are several additional readings and resources that you will be directed to on the Internet or in the WSU Library System – There is a set of Soils 150 materials on reserve in Fischer Ag Science Library, Johnson Hall Annex)

Overview

In this class we will explore the systems involved in bringing food to us (and other people!), with a special emphasis on the sustainability of these systems. The idea of 'sustainable food systems' has gained increasing momentum as world population continues to grow, more and more concerns are raised regarding the state of our environment, and farmers and city folks alike bemoan the loss of family farms. The increasing roles (sometimes controversial) of scientific and technologic advances add a new layer of complexity in understanding the issues and acting as informed citizens. We will explore the science behind a number of agricultural issues, as well as consider our own roles and connections to sustainable food systems.

The topic is a broad one, and we will use a number of tools to conduct our exploration, including readings, hands-on activities, discussions, guest presentations, reflective and investigative assignments, as well as some traditional 'lectures.' Besides what the instructors and guests present in the class, each of us brings our own areas of interest, experience and expertise, and we will likely all learn from each other (not just from the instructors!). Most (probably all!) of our personal areas of study (whether that be economics, English, or agriculture) are or can be connected to sustainable food systems. An overarching goal of the class is to shed light on those connections - to society, and to our own personal and professional lives.

Among the questions that students should be able to critically address by the end of the course are the following:

- What are the components of and relationships in the food system(s) I am in?
- What are some of the important issues/threats with respect to having safe and healthy food *in perpetuity*?
- How can we evaluate *sustainability*?
- What are my own food system choices based on?

In addition to addressing these content-related questions, another important goal of the class is to enhance a number of skills including:

- Finding and interpreting information (with an emphasis on science-based information)
- Communicating effectively in orally and in writing
- Practicing group discussion skills

As we move more and more into an 'Information Age' these skills related to finding, understanding and then *communicating about* information, become more and more crucial in our personal and professional lives. Success no longer depends as much on *what you know* – instead, having an informed understanding and making choices as to what you *do* with that information are increasingly important. We need to be able to turn information into knowledge that one can act on.

Objectives

In summary of the above overview in a few lines: The goals of *Science, Society and Sustainable Food Systems* are to provide students with an introduction to food systems, agricultural production practices and issues, concepts of sustainability, and the science behind many of the questions raised. **Specific objectives are:**

- 1) To develop a basic understanding of food systems and sustainability, including their components and interactions;
- 2) To develop an understanding of science and its role in sustainable food systems; and
- 3) To enhance skills in critical thinking and in using/evaluating different resource materials.

Students will have opportunities to explore various aspects of food systems and sustainability concepts, to use the scientific method in exploration of agricultural production approaches, to evaluate the perceptions and realities behind food systems issues currently in the popular press, and to explore and articulate their own experiences and perceptions with respect to sustainable food system.

Expectations and Evaluation of Performance

We will spend a fair amount of time working and discussion in groups (large and small). Mutual respect and effort are essential components and will be expected at all times. ☺ Also, attendance will be important for learning in this class. Assignments and readings are expected to be completed before the start of class on the due date. A separate handout will be provided that contains the assignments and readings, and associated due dates. Unless otherwise noted, all assignments should be typed.

1. Grading of Academic Students (*Students taking the class for credit*)

Students will be evaluated based on several homework assignments (short written essays) and short reports, two poster presentations of their research findings, a midterm and final exam, and class participation.

Practicum Activities (overall)	30%
Poster presentation (5%)	
Short exercises and reports (25% combined)	
'Lecture' Assignments	45%
Oral report on interview with agricultural professional (5%)	
Case study written report 1 (5%)	
Case study written report 2 (5%)	
Reflective essays, investigative, exercises and other assignments (30%)	
Quizzes (5%, 10% and 10%, see text below)	<u>25%</u>
TOTAL:	100%

Quizzes will consist of questions derived from both class lecture and practicum sessions, and include assigned readings. Questions may include definitions of terms, short answers, interpretations of data, and brief essays. The quiz with the lowest grade will be worth 5% of your total grade and the other two (higher grades) will be worth 10%. The third quiz will be an oral given during final exam week.

Your in-class and 'homework' *assignments* are key parts of this course as well. They are designed to have you interact with the material in ways that are not possible through class-time alone.

*Final Grades for Academic Students**

A 95-100	B+ 87-89	C+ 77-79	D+ 66-69
A- 90-95	B 83-86	C 73-76	D 60-65
	B- 80-82	C- 70-72	F <60

* *Students registered through the University of Idaho will receive full letter grades only*

2. Granting of CEUs for Non-Academic Students (*taking the class for Continuing Education*)

To receive full benefit from the class, it is recommended that all sessions be attended. However, since extenuating circumstances do sometimes occur, granting of CEU credit is dependent on attending and actively participating in **at least 80% of all class sessions** (including practicum sessions).

Disability Accommodations

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may mean that requested accommodations might not be available. All accommodations must be approved through the Disability Resource Center (DRC) located in the Administration Annex Room 205, 335-1566. We also recognize that each student has strengths and weaknesses. If you have difficulty learning the material or doing the assignments/exams but don't have a documented disability, please see me for accommodations

Course Topics

I. Introduction and 'big picture'

- a. Introduction to agriculture, sustainability, and food systems
- b. Overview of world and PNW agricultural systems
- c. Looking at systems holistically
- d. What is science and where does it come into play in agriculture and food systems?

II. Production of our food

- a. Soil – what is it, and why is it important?
- b. What, when, and why of fertilizers
- c. What, when and why of pesticides
- d. Plant breeding, genes and GMOs
- e. Role and importance of livestock

III. Environmental issues related to food systems

- a. Soil conservation and health
- b. Water and air quality
- c. Water quantity

IV. Economic viability and sustainability

- a. Public policy, the farm bill, and agriculture
- b. Direct marketing
- c. Eco- and other- labeling of food

V. Social aspects of and influences on sustainable food systems

- a. Food safety & desirability
- b. Food access and security
- c. Importance of and to rural communities

VI. Other topics that are woven into the above (both in 'lecture' and discussion sessions)

- a. Technology, transportation and farm-to-market issues
- b. How and where does science fit into the above?
- c. How do professionals learn and evaluate food systems and sustainability
- d. Personal reflection! How do we fit into the above?