

SOCR 421
Crop and Soil Management Systems
Fall, 2012

Instructor:

Neil C. Hansen, C138 Plant Sciences
Telephone: 491-6804 Email: neil.hansen@colostate.edu

Course Objective:

The objectives of Crop and Soil Management Systems are:

- 1) To understand principles of soil organic matter and how it can be managed for sustainability.
- 2) To understand principles of soil erosion by water and wind and management approaches to control erosion.
- 3) To understand crop and soil management practices for water conservation in water limited agroecosystems.
- 4) To examine plant-soil-water relationships for major agronomic crops and apply the principles to crop production systems.
- 5) To develop the ability to evaluate and apply scientific information within the context of cropping systems.

Textbook: There is no required textbook for this course.

Case Study Based Laboratory: The laboratory uses a case study approach to understanding agricultural systems and ecology. Three diverse farm businesses are used for case study learning. An information gathering field trip is taken to each case study farm, where each student is assigned an area of specialization. Students are required to draw on the current course, past education and experience, team members, and outside references to evaluate the farm business and make a comprehensive recommendation to the farm including economic, environmental, and social factors. Information is presented in student led discussion and formal written and oral presentations.

Grading:

3 Hour Exams (Includes final exam)	300 points
Quizzes and Assignments	150 points
Laboratory	350 points
Written reports	= 200 (2 reports: Schwalm, Grant)
Oral report	= 100 (1 report – Larson)
Participation	= 50
TOTAL POINTS	= 800 points

SOCR 421 Lecture Schedule Crop and Soil Management Systems

Fall Semester, 2012	Dates	Topic
1	Aug 20	Course Outline and Introduction
	Aug 22	The Nature and Properties of Soils
	Aug 24	The Nature and Properties of Soils
2	Aug 27	Soil Carbon and Organic Matter
	Aug 29	Soil Carbon and Organic Matter
	Aug 31	Soil Carbon and Organic Matter, OM QUIZ
3	Sept 03	No Class - Holiday
	Sept 05	Tillage and Planting Equipment
	Sept 07	The Dust Bowl
4	Sept 10	Water Erosion
	Sept 12	Career Fair 12-13th
	Sept 14	Water Erosion
5	Sept 17	Water Erosion
	Sept 19	Water Erosion Quiz
	Sept 21	Wind Erosion
6	Sept 24	Wind Erosion
	Sept 26	Wind Erosion
	Sept 28	Exam 1
7	Oct 01	Discussion of Exam 1
	Oct 03	Water Conservation
	Oct 05	Water Conservation
8	Oct 08	Water Conservation
	Oct 10	Water Conservation
	Oct 12	Water Conservation
9	Oct 15	CCA Information (Bauder)
	Oct 17	Soil Compaction
	Oct 19	Information and Decision Making
10	Oct 22	Exam 2
	Oct 24	No Class
	Oct 26	Plant, Soil, and Water Relations
11	Oct 29	Plant, Soil, and Water Relations
	Oct 31	Plant, Soil, and Water Relations
	Nov 02	Plant, Soil, and Water Relations
12	Nov 05	Plant, Soil, and Water Relations
	Nov 07	Plant, Soil, and Water Relations
	Nov 09	CCA Information (Bauder), PSWR Quiz
13	Nov 12	TBA
	Nov 14	Larson Farm Individual Oral Reports
	Nov 16	TBA
14	Nov 19-23	FALL RECESS
15	Nov 26	Fitting Cropping Systems to Soil and Climate Situations
	Nov 28	
	Nov 30	
16	Dec 03	Fitting Cropping Systems to Soil and Climate Situations
	Dec 05	
	Dec 07	
Final	Dec 11	Final Exam, 9:40-11:40 a.m.