SOIL 461/661: Soil Management for Environmental Sustainability

Dr. Robert Michitsch
Office: 276 CNR
Phone: 715-346-4190
e-mail: rmichits@uwsp.edu
Office Hours: by appointment

Course Description: Use soil science concepts from fertility, wind and water erosion, and surface and groundwater contaminant abatement principles in solving soil management problems for all disciplines of natural resources.

2hrs Lecture Tuesday 11:00-1:00 in TNR 255
3hrs Lab Friday 12:00-3:00 in TNR 262 or 356

Students completing this course will be able to:

1. Describe various soil physical, chemical, and biological management concerns and potential solutions.
2. Assess the complexity of various management practices and their impacts on soil.
3. Employ practices and software used by soil conservation agencies and others who manage soil.
4. Demonstrate the ability to use and apply soil management tools and techniques.
5. Complete a project that integrates knowledge of soil, land, and waste resources; technical skills (such as lab analyses, software analyses, and research); and previous experience in your area of study.
6. Demonstrate skills, processes, and resources needed to make a successful transition from college to the world beyond by completing a team oriented project for an external audience in a self-directed environment.
    a. Demonstrate the ability to work in a team environment on a complex project
    b. Demonstrate the ability to work in a self-directed environment on a complex project
    c. Demonstrate the ability to use and apply soil management tools and techniques

Texts:

Required:

Soil and Water Conservation. Troeh, Hobbs, and Donahue. Prentice Hall.

There will also be various handouts and links to online resources.
This course has a Canvas space for dissemination of materials.

Evaluation

Grade is a combined lecture and lab score including:

6 Homework/Writing Assignments	300 points (50 each)
Overall Participation	100 points (my discretion)
Lab/Consultant Reports	150 points (50 points each)
Group Project	200 points
Quizzes	75 points (3 × 25 points each)
Final Exam	50 points

***Graduate students will have additional expectations.

Expect the **A, B, C, etc…** breakdown to follow the **90, 80, 70, etc…** percent of total points earned with +/- grading used.

Cheating and/or plagiarism will not be tolerated. You may work together in lab and class discussions, but you will do all assignments and exams independently as per Chapter 14 of the Student Handbook.

Proper American Society of Agronomy style citation is required on all written documents.

Late assignments will be assessed a 5% deduction per day.

Week	Lecture Topic	Lab Topic	Tasks Due
1	No class	No lab	
2	No class	No lab	
3	Introduction, Land Degradation Issues	First assignment	
4	Soil Physical Concerns	Food + Farm Exploration Center	A1a
5	Soil Chemical/Biological Concerns	Nutrient Management Planning Project	A1b, Q1
6	Soil Chemical/Biological Concerns	Virtual Lab	A1c
7	Soil Erosion	Marshfield Soil Lab (field trip)	A2a, Q2, L1
8	Soil Erosion	Virtual Lab	A2b
9	Spring Break	Spring Break	
10	Wind/Water Erosion	Wind/Water Erosion	A2c
11	Wind/Water Erosion	Wind/Water Erosion	L2
12	Building Soil	Grazing Activity (maybe field trip)	Q3
13	No class	Virtual Lab	L3
14	Tom Sauer/USDA or Engineering	Central Wisconsin Windshed Project Field Trip	
15	David Lindbo/USDA or Engineering	Cover Crop Field Trip	
16	Project Presentations	?	Project
17	Exam Monday May 13th, 12:30-2:30	Oral exam?	Exam