

# **SOIL 365/565 – SOIL QUALITY ASSESSMENT AND SOIL SURVEY INTERPRETATION**

## **SYLLABUS**

### **Instructor**

Bryant C. Scharenbroch, Ph.D.

TNR 278 (office hours: Mondays and Wednesdays at 11-1150 am or when my door is open)

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### **Catalog description**

3 cr. Apply soil survey information to make interpretations for various land uses; identify the limitations and suitability of soils for specific planning purposes. Understand and assess soil quality in situations where soil survey information will not suffice; interpret soil quality assessment for land use and management. Prerequisites: Summer Field Experience, CNR major or written cons instr.

### **Course overview**

This course covering soil quality assessment and soil survey interpretation is designed for upper level undergraduate and graduate students in soils, forestry, natural resources, land use planning and related fields. Weekly, the course includes a one-hour lecture, a one-hour discussion and a two-hour laboratory session. The course is divided into two sections: (1) soil quality assessment and (2) soil survey interpretation. Students will complete eight exercises and three exams for the course grade.

### **Course goal**

Students will understand and demonstrate how soil quality assessment and soil survey interpretation information can be used for evaluating soils for use and management.

### **Course learning outcomes**

1. Students will understand what soil quality is and why it is important
2. Students will be able to perform soil quality assessments
3. Students will be able to interpret soil quality for land use and management purposes
4. Students will understand what soil survey is and why it is important
5. Students will understand the data contained within soil survey
6. Students will utilize data from soil survey in land use planning

## Textbook and readings

- No textbook is required for this course.
- All required reading for the course will be placed on the course canvas website.

## Evaluation

A variety of methods will be used for student evaluation. These include performance in three examinations, eight exercises, and participation/professionalism/pop quizzes. The examinations may include multiple choice, true/false, fill in the blank, matching exercises, calculations, problems sets, short answers, and/or essay questions. Grading will be based upon quality of work with components weighted as follows.

ITEM	VALUE	WEEK DUE*
Exercise 1 – Introduction to Soil Quality	4	3
Exercise 2 – Physical Indicators of Soil Quality	4	4
Exercise 3 – Chemical Indicators of Soil Quality	4	5
Exercise 4 – Biological Indicators of Soil Quality	4	7
Exercise 5 – Soil Quality Project	10	9
Exercise 6 – Introduction to Soil Survey	4	10
Exercise 7 – Web Soil Survey	4	11
Exercise 8 – Soil Survey Project	10	16
Exam 1	18	6
Exam 2	18	11
Exam 3	18	16
Participation, professionalism, and pop quizzes	5	N/A
Total**	103	N/A

\*All exercises and reports are due at the beginning of your discussion & laboratory session for the week listed. \*\*Total course points available are 103, but grading will be on a total of 100 points.

## Grading scale

A = 93-100; A- = 90-92; B+ = 87-89; B = 83-86; B- = 80-82; C+ = 77-79; C = 73-76; C- = 70-72; D+ = 67-69; D = 60-66; F = <60

## Schedule

DATE	WK	LECTURE	DISCUSSION/LAB
9/3	1	Introduction to Soil Quality (SQ)	<b><i>NO MEETING</i></b>
9/10	2	Physical Indicators	Ex1: Introduction to SQ
9/17	3	Chemical Indicators	Ex2: Physical Indicators
9/24	4	Biological Indicators	Ex3: Chemical Indicators
10/1	5	Review SQ Indicators	Ex4: Biological Indicators
10/8	6	<b><i>EXAM 1</i></b>	
10/15	7	SQ Indices	Ex5: SQ project*
10/22	8	SQ Indices	Ex5: SQ project*
10/29	9	Introduction to Soil Survey (SS)	Ex6: Introduction to SS
11/5	10	Introduction to SS	Ex7: Web Soil Survey**
11/12	11	<b><i>EXAM 2</i></b>	
11/19	12	SS Properties and Qualities	<b><i>THANKSGIVING BREAK</i></b>
11/26	13	SS Properties and Qualities	Ex8: SS project**
12/3	14	SS Suitabilities and Limitations	Ex8: SS project**
12/10	15	SS Suitabilities and Limitations	Ex8: SS project**
12/17	16	<b><i>EXAM 3 (Tuesday, 12/17/19 at 1015-1215)</i></b>	

### **Lecture meeting times and locations**

- Tuesday at 9-950 in TNR 120

### **Laboratory and discussion meeting times and locations**

- Section 1 on Wednesday at 8-950 (laboratory) and 10-1050 (discussion) in TNR 255
- Section 2 on Thursday at 8-950 (laboratory) and 10-1050 (discussion) in TNR 255
- Section 3 on Monday at 14-1550 (laboratory) and 16-1650 (discussion) in TNR 255

\*Discussion/Laboratory may travel to off-site location for Soil Quality project on these days.

\*\*Discussion/Laboratory will meet in the TNR 322 (ACL) on these days.

### **Professionalism and participation**

UWSP students must maintain high degrees of professionalism, commitment to active learning and participation. You are expected to maintain integrity in your behavior in and out of the classroom. Any deviation from these expectations will affect your participation and professionalism grade for the course. Cheating and/or plagiarism will not be tolerated under any circumstance. Any student found guilty of either will be prosecuted following UWSP Academic Honesty Policy and Procedures. Students are responsible for all material covered in course lectures and laboratory sessions. Laboratory exercises and soil profiles of the day will not be accepted from students missing laboratory sessions without an excused absence. Exercises and assignments that are submitted to the instructor late and without prior approval will not be accepted and scored a zero. Scheduling of make-up examinations will be done only if an absence is due to personal illness, accident, death in the family, or a circumstance deemed legitimate by the instructor. Make-ups for field trips are not available. Students wishing to attend alternate laboratory sections may do so with prior approval from the instructor.

### **Emergency procedures**

In the event of a medical emergency, call 911 or use the red emergency phones located throughout the campus. Offer assistance if trained and willing to do so. Guide emergency responders to victim. In the event of a tornado warning, proceed to the lowest level interior room without window exposure. Avoid wide-span rooms and buildings. In the event of a fire alarm, evacuate the building in a calm manner and meet outside the building. Notify instructor or emergency command personnel of any missing individuals. In the event of an active shooter, run, escape, hide and fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders. See UW-Stevens Point Emergency Management Plan at [www.uwsp.edu/rmgt](http://www.uwsp.edu/rmgt) for details on all emergency response at UW-Stevens Point.