

GEOG 304
Soils
Spring 2013
9:40 – 11:10 TuTh (4215 Sage Hall)

Instructor: Mark Bowen

Office: 4455 Sage Hall

Office Hours: Mon, Tue, Wed, and Thu 11:30 – 12:30, or by appointment

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Soils Lab: 4456 Sage Hall

Textbook: *Elements of the Nature and Properties of Soils, 3rd Edition* by Brady and Weil.

Online: Desire2Learn (announcements, PowerPoint lecture outlines, grades, etc.)

Objectives: The goals of this course are to introduce students to the fundamental principles of soil science and provide students with hands-on experience working with soils. Students will be able to identify specific soil types and their properties, appreciate the complex physical, chemical, and biological processes operating within the soil environment, recognize important factors and processes of soil formation, and understand how and why soils vary across the landscape.

Grading: Mid-term exam (100 points), Final Exam (100 points); Ten take-home assignments (10 points each, 100 points total); Ten laboratory assignments (10 points each, 100 points total); Final Project (25 points); **425 points total.** For grades, pluses and minuses will not be assigned (i.e., only A, B, C, D, and F grades are assigned); A \geq 90, B = 80-89, C = 70-79, D = 60-69, F < 60

Attendance: Attendance is strongly recommended and required to earn points for that day's laboratory assignment and activities. You must also be present on days that assignments are due to receive credit for that assignment. Also, since the bulk of test materials come from class lectures, regular attendance is necessary to receive a satisfactory grade. Make-up exams and assignments are only given for extreme circumstances and documentation of your reason for absence is necessary.

Special Accommodations: Reasonable accommodations will be made for students with disabilities. Please contact Disability Services (424-3100 (voice) or 424-1319 (TTY)) or visit their web site at <http://www.uwosh.edu/dean/disabilities.htm> for the University's accommodation request form and documentation requirements. Information related to an individual's accommodation request will be kept confidential.

Academic Integrity: The University of Wisconsin Oshkosh is committed to a standard of academic integrity of all students. The system guidelines state: "Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors. Students are subject to disciplinary action of academic misconduct which is defined in the UWS 14.03 Wisconsin Administrative code. Students are encouraged to review the code, located on the "Dean of Students" web page (see Student Conduct) in order to understand your rights and responsibilities.

TENTATIVE COURSE SCHEDULE

| Date | Lecture Topic | Readings | Laboratory Assignment |
|------------------|-------------------------------------|------------------|---|
| Jan 29 Jan 31 | Introduction to Soils | Chapter 1 | |
| Feb 05 Feb 07 | Soil forming factors | Chapter 2 | #1. Soil surveys |
| Feb 12 Feb 14 | Soil classification | Chapter 3 | #2. Soil taxonomy |
| Feb 19 Feb 21 | Soil physical properties | Chapter 4 | #3. Soil physical properties |
| Feb 26 Feb 28 | Soil moisture | Chapters 5 & 6 | #4. Soil moisture |
| Mar 05 Mar 07 | Soil aeration and temperature | Chapter 7 | #5. Particle size – Hydrometer |
| Mar 12 Mar 14 | Clay minerals and soil colloids | Chapter 8 | Mid-term exam |
| Mar 19 Mar 21 | No Classes – Spring Break!!! | | |
| Mar 26 Mar 28 | Soil Acidity, Aridity, and Salinity | Chapter 9 | #6. Soil pH and conductivity |
| Apr 02 Apr 04 | Soil Ecology | Chapter 10 | #7. Density and porosity |
| Apr 09 Apr 11 | Soil Organic Matter | Chapter 11 | #8. Organic matter |
| Apr 16 Apr 18 | Soil Nutrients | Chapters 12 & 13 | #9. Nutrient Analysis (N, P, K) |
| Apr 23 Apr 25 | Soil Magnetic Susceptibility | Assigned reading | #10. Magnetic Susceptibility |
| Apr 30 May 02 | To be determined | | |
| May 07 May 09 | To be determined | | Final Exam & Final Project due |