

GEOGRAPHY OF SOILS (416-475, SE401): Fall Semester, 2009

Lecturer: Tue & Thur 2:00 to 3:15, BOL B95

Lab: Thur 3:30 to 5:20, BOL 262 and TBA

Instructor: Glen Fredlund, **Office:** 486 Bolton Hall

Office Hours: T & R 11:00-12:00 T (Bolton 468) and by appointment.

Phone: 229-6112 (Direct Geog) or 229-4866 (Geog. Dept.) or 229-2448 (CES)

Email: fredlund@uwm.edu (Please only use phone in if necessary)

COURSE OBJECTIVES: This course focuses on the basics principles of 1) soil formation, 2) soil classification, 3) the interrelationships of soils with physical and cultural landscapes, and 4) environmental functions of soil (environmental services).

LECTURE NOTES and Other Course Content will be posted on the class d2L website.

REQUIRED TEXT BOOKS: MILLER AND GARDINER 2007 (11TH EDITION) **SOILS IN OUR ENVIRONMENT**

REQUIRED FOR FIELD: RHODIA (look for Orange cover) 6x8 Pad with graph paper available at the Union Bookstore for around \$5.

RECOMMENDED FOR FIELD AND LAB WORK:

- 1) Garden/work gloves
- 2) Clear plastic ruler with mm scale
- 3) Hand lens: **American Science and Surplus**, 6901 W Oklahoma Ave.

EXAMINATIONS AND GRADING: There are a total of 600 possible points. Attendance points, in the form of unannounced “quizzes,” comprise 12% of your grade. There will be a mid-term exam worth 106 points (~18%). The final exam worth 25% (150 points) of the grade will be given during the scheduled exam time for the class. These exams may take the form of take-home exams or in-class exams or a mix of the two. A term project or paper is required for students. This project will count for 12% (72 points) of your score. The remainder of the grade comes from lab exercises and field trip reports.

Grading Matrix:	Points	Percent
Attendance/Quizzes	72 pts.	12.00%
Mid Term	106 pts.	17.66%
Final Exam	150 pts.	25.00%
Final Project	72 pts.	12.00%
Lab/Field Assignments	200 pts.	33.33%
Total	600 pts.	100.00%

SOILS LABS AND FIELDWORK:

Some labs will be held in Bolton 262. Other labs assignments will need to be done in the soils laboratory in Lapham Hall basement. We will also take 3 or 4 afternoon (2:00 to 5:30) field days as part of lab. Dates of these field labs may change due to inclement weather occurs. On those days we will have lecture and possible in-door labs.

SATURDAY FIELD TRIPS:

There are two (or 3rd optional) required Saturday field trips. For these trips we will depart early Saturday morning from the Lapham Hall (Science) parking lot at 8:00 and return by 5:00. Your course fees are used for transportation on these trips.

FINAL PROJECTS OR PAPERS:

A paper or project is required. Traditional papers will take the form of library research summary papers (ca. 12 pages for undergraduates). Other projects could take the form of field mapping or GIS-based projects. Graduate papers or projects have significantly higher expectations and require a class presentation. Graduate students are required to make a brief presentation of your paper or project.

CLASS RULES AND OTHER IMPORTANT MATTERS:

Make-up Exams: Except under dire circumstances, substantiated by authentic written documentation, no makeup exams will be given. If you must miss an exam contact the instructor as early as possible, preferably before the exam. Late makeup examinations are typically essay and definition tests. There are no make-ups for missed quiz points.

Attendance is expected. Quizzes and exercises are designed to reinforce attendance. Exams focus on lecture material so regular attendance is strongly advised. There is no “make-up” for missed daily quiz or attendance points.

Excused Absences: Should you experience a personal or family emergency, such as illness or injury, during the semester that affects your attendance or class performance you need to inform the instructor as soon as possible so that allowances and accommodations may be made. It is your responsibility to document any emergency and to present this documentation to me.

Religious Commitments: I will make every effort to accommodate students who face conflicts between their academic responsibilities and religious commitments. Please let us know if you foresee any potential conflicts.

Student Disabilities: Any student in this class who has a documented disability that prevents the fullest expression of abilities should contact the instructor as soon as possible so that we can discuss class requirements and accommodations.

Email Correspondence: Email is the best way to get in touch with me (fredlund@uwm.edu). When contacting me by email, always: 1) use an appropriate subject line such as “Geog 375,” or “Soils Class.” 2) Email me from your own account, preferably your UWM address, and 3) include your NAME in the email.

Grievance Policy and Procedure: If, for any reason, you believe that you are being treated unfairly within this course your first step is to see me, the instructor. If there is a problem, which cannot be satisfactorily resolved through instructor-student mediation, you must next make an appointment to see the chairperson of the Geography Department. Information regarding the policies and procedures applicable to this course are available on request at the Geography Department main office, Bolton 410.

Academic Integrity and Academic Misconduct: Each student has an obligation to act with honesty and integrity, and to respect the rights of others in carrying out all academic assignments. Academic Misconduct may result in the immediate failure of the course in which the misconduct occurs. Academic misconduct will be reported to the Investigating Officer of the College of Letters and Science and additional sanctions may be recommended. A student may be found to have violated this obligation and to have engaged in academic dishonesty if during or in connection with any academic evaluation, if he/she:

- A. Engages in any form of academic deceit, (including **cheating, fabrication, and plagiarism**);
- B. Refers to materials or sources or employs devices (e.g., audio recorders, crib sheets, calculators, solution manuals, or commercial research services) not authorized by the instructor for use during the academic evaluation;
- C. Possesses, buys, sells, obtains, or uses, without appropriate authorization, a copy of any materials intended to be used for academic evaluation in advance of its administration;
- D. Acts as a substitute for another person in any academic evaluation;
- E. Uses a substitute in any academic evaluation;
- F. Depends on the aid of others to the extent that the work is not representative of the student's abilities, knowing or having good reason to believe that this aid is not authorized by the instructor.
- G. Provides inappropriate aid to another person, knowing or having good reason to believe the aid is not authorized by the instructor;
- H. Engages in plagiarism;
- I. Permits his or her work to be submitted by another person without the instructor's authorization; or
- J. Attempts to influence or change any academic evaluation or record for reasons having no relevance to class achievement.

"**Cheating**" is defined as "intentionally using or attempting to use unauthorized materials, information or study aids" in any academic exercise. Examples: a) Gaining unauthorized access to a copy of an exam; b) Working with other students on an exam without the express permission of the instructor; c) Submitting the same paper or substantial portions of a paper for multiple classes without the express permission of the instructor.

"**Fabrication**" involves the "intentional and unauthorized falsification or invention of any information or citation in an academic exercise. Examples: a) Fabricating data and/or creating a scientific lie; b) Creating quotations or inventing a journal article, book reference, etc.

"**Plagiarism**" means using another's words, ideas, materials or work without properly acknowledging and documenting the source. Students are responsible for knowing the rules governing the use of another's work or materials and for acknowledging and documenting the source appropriately. Examples: a) Failing to cite any major idea created by some other person or entity; b) Failing to cite and/or enclose in quotation marks all words, phrases or sentences copied from another source' c) Failing to cite paraphrased work of others; d) Acquiring a paper or project from a research service or another source and submitting it as your own work for academic evaluation.

TENTATIVE SCHEDULE FOR READINGS AND IN-CLASS DISCUSSION:

In the event of disruption of normal classroom activities due to an H1N1 swine flu outbreak, the format for this course may be modified to enable completion of the course. In that event, you will be provided an addendum to this syllabus that will supersede this version.

Mo	DAY	TOPIC	READ	#	LAB
Sep	03			1	
	08			2	
	10			3	
	15			4	
	17			5	
	22			6	
	24			7	
	29			8	
Oct	01			9	
	06			10	
	08			11	
	13			12	
	15			13	
	20			14	
	22			15	
	27			16	
	29			17	
Nov	03			18	
	05			19	
	10			20	
	12			21	
	17			22	
	19			23	
	24			24	
		Thanksgiving			
Dec	01			25	
	03			26	
	08			27	
	10			28	
	21	FINAL EXAM: Mon 12:30-2:30			

MO	DAY	TOPIC	READ	#	LAB
Sep	03	Introduction to Soil	Ch. 1	1	
	08	Physical Properties	Ch. 2	2	
	10	Downer Woods Filed Day			
	15	Soil Texture, Color, Structure, Bulk Density, Porosity, etc.			DW or texture and color lab
	17	Models for Soil Water	Ch. 3	3	
	22	Available water model, soil water potential model			DW or texture and color lab
	26	Saturday Field Trip???			Field Station
	29	Soil Chemical Properties	Ch. 4	4	
	03	Soil Clay			Soil Mineral Lab
Oct	26	Saturday Field Trip???			Field Station
	3	Soil Ecosystems and SOM SOM	Ch. 5	5	TBA
	10	MID TERM EXAM		6	Ch. 1 - 6
	11	Saturday Field Trip???			Point Beech
Nov	17	Models of Soil Formation	Ch. 6	7	TBA
	18	Saturday Field Trip???			Point Beech
	24	Soil Taxonomy: Soil Orders	Ch. 7	8	
	31	Soil Acidity	Ch. 8	9	RUSLE Lab
Dec	07	Plant Nutrients	Ch. 9	10	
	14	Soil Erosion	Ch. 11	11	
	21	Wetlands and Wetland Soils	Ch.14	12	Grad. Project Presentations
	28	Thanksgiving Break			
Dec	05	Conclusion and Perspectives Towards Soil Sustainability	Ch. 16	13	
	15	FINAL EXAM: TR. 7:30 – 9:30			

The above is tentative. Whether permitting we may spend additional Friday mornings on field days at the field station, UEC, or Shorewood Nature Preserve. I will use email and d2L to announce any changes in class activities.