

EESB05 H3 – PRINCIPLES OF SOIL SCIENCE -2009-10-

Instructor: Dr. Silvija Stefanovic

Teaching Assistants: TBA

Office: PO103 room #102

Office: TBA

Email: silvija.stefanovic@utoronto.ca

Dr. Stefanovic Office hours: Friday 3-5pm.

TA Office hours: will be announced during the first practical session and on the Intranet.

LECTURE: Fridays from 10am-12pm in room SW 128 (schedule of topics & readings on pg 2)

PRACTICAL: Every second week Tues. or Wed: 2-5pm in SW 313 (see schedule on pg 2). **You will need lab coat for the practical.**

COURSE DESCRIPTION

A study of the processes of pedogenesis and the development of diverse soil profiles, their field relationships and their response to changing environmental conditions. An examination of the fundamental soil properties of importance in soil management. An introduction to the techniques of soil examination in the field, soil analysis in the laboratory and the basic principles of soil classification.

COURSE PREREQUISITES

Students must have successfully completed EESA01H (Introduction to Environmental Science) **or** EESA06H (Introduction to Planet Earth).

TEXTBOOK

"Elements of the Nature and Properties of Soils" by N.C. Brady and R.R. Weil, -3rd ed. 2010, Pearson Publishers. This text is available from the UT Scarborough bookstore and from various sources on the Internet.

GRADE BREAKDOWN:

Practical Assignments	
(4 assignments x 6.25% each)	25%
Midterm Exam	30%
Comprehensive Final Exam	45%

LECTURE NOTES

The lecture slides will be posted in *.pdf format on the intranet. You will require Adobe Reader to open the files (available free of charge at www.adobe.com).

EXAMS

Both the midterm and final exam will draw from lecture and practical materials and includes lecture notes and *any* material presented in the classroom. Information from the textbook and other resources not directly covered in class or in the practical will not be tested on exams. Exams will contain both multiple choice and true/false questions.

COURSE EMAIL POLICY

Email is not an effective way of teaching and email inquiries regarding course materials will not be answered. Teaching assistants will be available during specified office hours to answer questions pertaining to practical assignments. Dr. Stefanovic will also be available during designated office hours to answer questions regarding course material. If you have questions, then please see instructors during office hours – this time is for you so please do not hesitate to use it.

LECTURE SCHEDULE

Date	Topic	Associated Readings in Textbook
September 11 th	Course orientation Introduction to Soil Processes	Chapter 1
September 18 th	Soil formation from parent material Soil color, texture, and structure	Chapter 2, pgs 97-114 of Chapter 4
September 25 th	Soil Classification	Pgs 58-60 of Chapter 3 and Appendix A(Tab.A.3 and A.4)
October 2 nd	Soil Classification (continued) Soil Surveys Video: "Properties of Soil"	Pgs 87-93 of Chapter 3
October 9 th	Soil Colloidal Fraction	Chapter 8
October 16 th	Soil Reaction (acidity, alkalinity and salinity)	Chapter 9
October 23 rd	Soil Water Soil Aeration Soil Bulk Density	Chapters 5, pgs 201-217 of Chapter 7, and pgs 114-123 of Chapter 4
October 30 th	Soil Organisms and Ecology	Chapter 10
November 6 th	Soil Organic Matter	Chapter 11
November 13 th	Soil Nitrogen, Practical Nutrient Management	pgs 397-412 of Chapter 12, pgs 466-475 of Chapter 13
November 20 th	Soil Phosphorus and Potassium, Practical Nutrient Management	Pgs 420-439 of Chapter 12, pgs 476-492 of Chapter 13
November 27 th	Soil erosion and its control Final Review	Chapter 14

I will follow this schedule as closely as possible, but things being what they are, some of these topics may "overflow" over into other time slots.

PRACTICAL SCHEDULE

#	Date of practical	Practical Activity	Due date (Assignment due at the beginning of your next practical)
1	P000 1 Tue. September 29th P000 3 Wed. September 30th P000 2 Tue. October 6 th P000 4 Wed. October 7 th	Soil Particle Size	P000 1 Tue. October 13th P000 3 Wed. October 14th P000 2 Tue. October 20 th P000 4 Wed. October 21 st Assignment pick up at the beginning of your practical #3)
2	P000 1 Tue. October 13th P000 3 Wed. October 14th P000 2 Tue. October 20 th P000 4 Wed. October 21 st	Soil CEC and pH	P000 1 Tue. October 27th P000 3 Wed. October 28th P000 2 Tue. November 3rd P000 4 Wed. November 4 th Assignment pick up at the beginning of your practical #4)
3	P000 1 Tue. October 27th P000 3 Wed. October 28th P000 2 Tue. November 3rd P000 4 Wed. November 4th	Soil Water and Bulk Density	P000 1 Tue. November 10th P000 3 Wed. November 11th P000 2 Tue. November 17th P000 4 Wed. November 18 th Assignment pick up after the final exam
4	P000 1 Tue. November 10th P000 3 Wed. November 11th P000 2 Tue. November 17th P000 4 Wed. November 18th	Soil Organic Matter	All sections: November 27 th (hand in during last lecture) Assignment pick up after the final exam

PLEASE NOTE:

- 1) Practical attendance is mandatory. Students who do not collect their own data during the practical session will not be allowed to submit an assignment for grading and automatically will receive a grade of zero. TAs will be making note of absent students.
- 2) Late assignments will not be accepted and assigned a grade of zero. Students must hand in assignments to your TA at the beginning of your next practical session.
- 3) Plagiarism will not be tolerated. Students are expected to submit **individual work** for grading. It is an academic offense to plagiarize and those who do, will be subjected to University procedures (see the University calendar).