Fall 9-1-2005

FOR 210N.01: Introductory Soils

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University of Montana, Missoula

Forestry 210, Introductory Soils

Fall 2005 Syllabus

Thomas H. DeLuca

Tentative Schedule			**Required Reading**
Date	Class	Topic	Chapter (Opt. Text)
8/29	1	Orientation/ Soils and History	
8/31G	2	Soils as a Complex System	1 (1)
9/05		**Labor Day Holiday**	
9/07G	3	Geology and Parent Material	2.1-2.12
9/12	4	Soil Genesis: Climate and Biology	2.13-2.14 (7)
9/14	5	Soil Genesis: Topography and Time	2.15-2.17 (7)
9/19	6	Soil Morphology	2.18, 3.1-3.2 (8)
9/21	7	Soil Classification I	3.3-3.8 (9)
9/26	8	Soil Classification II	3.9-3.16 (9)
9/28	**9**	**EXAM 1: Soil Genesis, Morphology and Classification**	
10/03	10	Soil Physical Properties	4.1-4.7 (2)
10/05	11	Soil Porosity and Moisture	4.9-4.10, 5.1-5.3 (2)
10/10	12	Soil Water I	5.4-5.7 (2)
10/12	13	Soil Water II	5.8-5.11 (2)
10/17	14	Soils and Hydrology	6.1-6.7
10/19	15	Soil Colloids	8.1- 8.4 (4)
10/24	16	Clay Mineralogy	8.5-8.7 (4)
10/26	17	Cation Exchange	8.8-8.11, 8.14 (4)
10/31	18	Soil Acidity and Alkalinity	9.1-9.8 (4)
11/02	**19**	**EXAM 2: Soil Physical and Chemical Properties**	
11/07G	20	Soil Biology	11.1-11.11 (6)
11/09G	21	Soil Microbial Ecology	11.12-11.15
11/14	22	Soil Organic Matter and Humus Formation	12.1-12.10
11/16	23	Soil Biochemistry: Nitrogen & Sulfur	13.1-13.15 13.20-22
11/21	24	Soil Nutrients: Phosphorus & Potassium	14.1-14.3, 14.13 (5)
11/23		**HOLIDAY: Thanksgiving**	
11/28	25	Fertilizers and Saline Soils	10.1-10.6 16.11 (12)
12/05	26	Soil Erosion	17.1-.5 17.9-12 (11)
12/07	27	Fire Effects and Overview	7.9, 16.4
12/14 (8:00)	**28**	**FINAL EXAM: Cumulative**	

G = guest lecture

Text: Brady, N.C. and R.R. Weil. 2002. The nature and properties of soils. 13th ed., Prentice Hall, Upper Saddle River, NJ. 960 pp.

Opt. Text: Kohnke, H. and D.P. Franzemeier. 1995. Soil Science Simplified. 4th ed. Waveland Press, Prospect Heights, IL. 162 pp.

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Laboratory Schedule

Week Starting	Lab Assignment	Location	Lab Book
August 29	Rocks, Minerals, and Soil	SC 403	Lab 1 **r**
September 5	NO LABS (Labor Day Holiday)		
September 12	Profile Description (Morphology)	Field	Lab 2 **r**
September 19	Dry Grassland and Riparian Soils	Field	Lab 3 **r**
September 26	Moist Grassland and Tertiary Sediments	Field	Lab 4 **q**
October 3	Dry Forest and Fire Effects	Field	Lab 5 **r**
October 8 (8AM)	Lubrecht Field Study	Field	Lab 6 **R**
October 10	Soil Classification and Mapping	SC 403	Lab 7 **q**
October 17	Soil Physical Properties	SC 403	Lab 8 **q**
October 24	Infiltration Lab	SC 403	Lab 9 **r**
October 31	Soil Chemistry	SC 403	Lab 10 **q**
November 7	Soil Biology	SC 403	Lab 11 **q**
November 14	NO LABS (Thanksgiving Day Holiday)		
November 29	NO LABS		
December 6	Waste/Resource Management	Field	Lab 12 **q**

*** The letters q = quiz, r = written lab report, R = BIG written lab report**

Lab Book: DeLuca, T.H and M.P. O'Herron. 2002. Introductory Soils Lab Manual. 87 pp. On Web at http://www.forestry.umt.edu/Personnel/faculty/deluca/Laboratory/labbook.doc

Written lab reports will be typed except for Lab 1 and are due at the beginning of the following week's lab session. Quizzes will be given at the beginning of the six labs noted above and will be based on the subject matter of both the previous and current laboratory. Note, **Lab 6 is an all day field trip** to be held on October 8th leaving Science Complex at 8:00 am and returning at about 4:00 pm.

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Important Notes

1. **Instructors:**
Tom DeLuca, Professor of Forest Soils. 402 SC, 243-4425, tom.deluca@cfc.umt.edu

2. **Teaching Assistants:**
Rachel Brimmer, 444 SC, 243-5326, uc_mack@yahoo.com
Motoshi Honda, FOR 311A, 243-2472, motoshi.honda@hotmail.com

3. **Lecture location:** Journalism 304, Time - 8:10 - 9:00 MW
Lab location: Science Complex 403, Time - 2:10 - 5:00 M, T, W, R, or F

4. Grades will be computed from the following four components:
- Average of 5 lab reports and 6 lab quizzes (25%)
- First hour exam (25%)
- Second hour exam (25%)
- Final exam (25%)

Exams will be graded on a curve

5. Office hours
- DeLuca: 9:00 -11:00 am MW or by appointment.
- TAs: To be announced in lab

6. Labs 1, 7, 8, 9, 10 will meet in SC 403. Lab 2 will meet at the base of Mount Sentinel at the M-Hill trailhead. The remaining labs will meet at the loading dock behind Science Complex (south side of SC) where we will board busses for transportation to field sites. **WE DEPART PROMPTLY AT 2:10 P.M.** The Saturday labs depart from the same location at 8 am.

7. Lab reports are due at the beginning of the next weeks lab. **Your grade will be reduced one letter grade for each day late.**

8. You are advised to take field specimens (plant, soil, rock) on field trips.

9. Check weather forecasts and dress accordingly, **LABS ARE NEVER CANCELED**. The weekend lab in October is often performed under snowy conditions.

10. Lab is heavily concentrated toward the first half of the semester, so plan accordingly!

11. Any student with learning disabilities or disadvantages needing special dispensation or assistance must inform the instructors during the first week of class.

12. All course activities are governed by the Student Conduct Code, which embodies the ideals of academic honesty, integrity, human rights, and individual responsibility.