

Date(s)	Lecture topic	Chapter: sections in Brady's 14th ed.
9/3	Introduction to the course - No labs meet this week.	1 (opt.)
9/5	Soil texture	4:2,3
9/10	Other physical properties - Labs begin meeting this week.	4:1,4-8
9/12	Soil water I: adhesion, cohesion, structure of water, matric tension	5:1-4
9/17	Soil water II: water movement and plant relationships	5:5-10
9/19	Soil aeration	7:1,2,4-6
9/24	Soil temperature	7:8-11
9/26	Soil colloids I	8:1-5
10/1	Colloids II and cation exchange	8:6-11
10/3	Soil pH I	9:1-7
10/8	HOUR EXAM #1 (only covers material <u>discussed</u> 9/3 to 10/3)	
10/10	Soil pH II: plant effects & liming (or acidification)	9:8-10
10/14	No labs meet this week due to loss of Tuesday sections.	
10/15	No lecture. UMass follows Monday's schedule.	
10/17	Soil organic matter I: definition, sources & polymers	12:2, Moodle
10/22	Soil organisms	11
10/24	Organic matter II: effects of and factors affecting	12:3-6,8
10/29	Organic matter III: nitrogen immobilization	12:3-6,8,10
10/31	Soil nitrogen I: forms and plant effects	13:1, Moodle
11/5	Soil N II: the nitrogen cycle	13:2-13,15
11/7	HOUR EXAM #2 (covers 10/10 to 11/5)	
11/12	Sulfur - No labs this week.	13:16-22
11/14	Phosphorus	14:1-9
11/19	Potassium and micronutrients	14:9-16, 15
11/21	Soil sampling and testing	16:11,13
12/3	Soil nutrient management	16:1-10
12/5	Soil formation & classification	Moodle, (2, 3)
12/10	Soil erosion	17
12/19 Thu	10:30 A.M., ILC S140. THIRD EXAMINATION. (as of 8/31/19, may change.) The third exam is not cumulative. Covers 11/12 to 12/10.	

The chapter and section numbers listed above are accurate for the 14th edition of the recommended text for the course: N.C. Brady and R.R. Weil. 2008. The Nature and Properties of Soils. Pearson/Prentice Hall, Upper Saddle River, N.J. However, you may have gotten a good deal online on a used copy of an older edition, in which case the chapter and section numbers may be a little different. Or, you may have taken one look at the fat size of Brady's 14th and substituted Brady and Weil's much more compact "Elements of the Nature and Properties of Soils", which will render the chapter and section numbers on page of this thing nearly useless. But, you're a bright college student. You'll be able to find the right spots by looking for keywords from each lecture title in the detailed table of contents. Besides, your instructor doesn't feel comfortable asking questions on his exams about stuff he didn't actually talk about in the lectures, which means that the Moodle notes (with copies of every single slide you'll see in the lectures) are actually more valuable to study than a textbook, when you're cramming for a Soils exam. Your instructor recommends that you buy a used copy of the text that's cheap enough that you won't feel that you've got to sell in back at the end of the semester. Years from now, when you run into a soils-related question, you'll be glad you still have your old copy of Brady in which to look up the answer.

Determinants (%) of course grade:

Laboratory	25
Exam #1	20
Exam #2	20
Exam #3	20
Quizzes & problems	15

Minimum numerical scores for letter grades are:
 92 = A, 89 = A-, 86 = B+, 81 = B, 78 = B-, 75 = C+, 70 = C, 67 = C-, 64 = D+, 56 = D.

Quizzes and problem sets. Approximately three unannounced quizzes will be given during the last 5 to 10 min of selected lectures. One or two problem sets will also be assigned during lectures. The management reserves the right to synthesize a grade for a "virtual quiz #4" based on recorded attendance at historically under-attended lectures during the second half of the semester. If such a quiz 4 is created, then the lowest of the four quizzes will be dropped before the average quiz score is calculated.

Missed exams, quizzes, and problem sets. Only students with University-recognized excuses (death in the family, etc.) may make up missed examinations, quizzes, or problem sets *for full credit*. Appropriate documentation from doctors or the Dean of Students will be required. For flimsier excuses, partial credit may be available at the discretion of the instructor.

A known conflict with a scheduled exam date should be brought to the attention of the instructor as soon as possible for resolution. ***The final exam cannot be given early!***

Instructor: Stephen Simkins
Phone: 545-5211 (w/ voice mail)
email: ssimkins@umass.edu
Office: Stockbridge Hall, room 020

Office Hours. Wed. 2:00-3:30 If you plan to come to office hours, please first call the number listed above to verify that Simkins is not in a meeting or with another student. You are also encouraged to schedule additional times on an individual basis.

Laboratory location: Stockbridge 007B

Lab TAs:

Isobel Arthen	larthen@umass.edu
Chunyang Li	chunyangli@umass.edu
Heping Shang	hshang@umass.edu
Sicheng Xiong	sichengxiong@umass.edu

Laboratory grading and attendance policies will be announced by your lab instructor during the first meeting of your section.

Lab manual. The laboratory manual required for PLSOIL 105 is available for purchase at Amherst Copy & Designworks. It will be needed for all labs meeting 9/16 and later throughout the semester.

Moodle usage. Moodle contains a copy of this syllabus, links to notes for all lectures, and a gradebook showing your scores in the lecture portion of the course. A link to each of last year's exams will appear about a week before the corresponding exam is scheduled this semester.

Schedule of laboratory exercises

Week beginning	Lab exercise [with notes]
9/2	No lab meetings due to lack of Monday
9/9	Calculations and the metric system [This portion of the “lab manual” will be distributed in each lab section. All subsequent exercises require a lab manual that you can buy from Amherst Copy & Designworks, https://amherstcopy.com/ . Please be advised that as of 9/3/18 our Lab Manuals are not offered for sale on their website.]
9/16	Soil texture [Public Service Announcement. 9/16 is also the last day of Add/Drop, so if you find yourself in a non-required boring course, bail out by 5:00 P.M. on this date.]
9/23	Bulk density [In which your TA will have the pleasure of telling you to “Pound sand.”]
9/30	Soil moisture
10/7	Cation exchange capacity
10/14	No lab meetings due to loss of Tuesday [UMass takes off for Columbus Day?!? Really?!]
10/21	Soil pH measurement [Oops! We actually included a lab with practical value.]
10/28	Lime requirement [Huge entertainment potential. A little screw up, and your poor TA is going to have to try to explain why one experiment measured apparently negative concentrations of non-acidic cations, which are, of course, absolutely impossible.]
11/4	Soil nutrient tests, soil survey reports, [Dang! More practical value.] and C:N ratio I
11/11	No lab meetings due to loss of Wednesday sections to Veteran’s Day
11/18	C:N ratio
11/26	No lab meetings. [Thanksgiving.]
12/2	Possible Lab Final
12/9	No lab meetings; No Thursday classes this week.