

Syllabus for Forest Soils Laboratory- FOR 2041
(Spring 2008)

Instructor: Dr. Robert L. Ficklin
203 H.H. Chamberlin
Phone: 460-1692 (o); 573-808-2501 (h)
Web: <http://www.ficklinsoils.net>

Lab Time and Location: T 1:40pm to 4:30pm; Rm 209 or Soil Lab
H.H. Chamberlin

Office Hours: 8:00 to 10:00 a.m. Tuesday and Thursday and by appointment.

Course Objectives: To introduce fundamental soil description, sampling, and analysis techniques. Upon completion of the course, students will be prepared to utilize published soil survey information, design and implement soil sampling designs, and interpret basic soil analytical data for integration into comprehensive forest resource management plans.

Evaluation Criteria: Two exams (25% each)
Final Exam (30%)
Laboratory Reports (15%)
Participation (5%)

Note: Learning the jargon of soil science is important for the communication of ideas between and among natural resource professionals. Similarly, learning the jargon of soil science is critical for the successful completion of this course. The definitions for all soil science terms are in the glossary of Brady and Weil.

Scale: A=90-100 B=80-89 C=70-79 D=60-69 F<60

UAM will no longer mail grade reports to all students. You may access your grades through Campus Connect on the UAM homepage, <http://www.uamont.edu/>. To have your grades mailed to you, complete the grade request form available in the Registrar's Office in Monticello or the Student Services offices in Crossett and McGehee.

Expectations:

1. Lab reports are due one week from the assignment date. Late reports will receive a 25% deduction.
2. Three *unexcused* absences will result in a drop of one letter grade. Missing five classes will result in expulsion from the course.
3. Failure to submit two lab reports will result in a zero for the lab section.

4. A word processor must be used for all assignments.
5. Cheating and/or plagiarism will result in a zero on that assignment or test. ***Cheating and plagiarism are both violations of the UAM Student Academic Conduct Code as defined in the Student Handbook (See Statement Below).*** Two incidents will result in administrative action, which may include expulsion from the class and/or the University.
6. Disorderly conduct will not be tolerated. This course is designed to facilitate the development of forest resource professionals. Disorderly conduct will be handled in a manner appropriate for the disruption.

Professionalism:

Students in the School of Forest Resources are pursuing courses of study that prepare them for careers as natural resources professionals. Professional education is much more than technical training and encompasses professional resource education as well as general education, social science and humanities courses. Collectively, these subjects constitute professional education.

Because the School is dedicated to professional education rather than technical training, the faculty and staff have certain expectations of themselves and of SFR students with regard to professionalism and personal conduct in their preparation for careers in the natural resource professions. Thus, SFR students and faculty are expected to exhibit conduct and attitudes appropriate to professionals.

Conduct and attitudes appropriate for professionals include, but are not restricted to,

1. The UA-M Code of Student Conduct published in the University catalog,
2. Attitudes appropriate for resource professionals of the 21st Century:
 - a. Respect for others and for their ideas;
 - b. Appreciation for ethnic and gender diversity in the workplace;
 - c. Sensitivity to environmental quality;
 - d. Adherence to professional ethics, e.g. the Society of American Foresters Code of Ethics.

The instructor reserves the right to reduce student grades or withdraw a student from class for unprofessional behavior.

Absences from Class and Announced Exercises:

Although a formal roll-call may not be performed on a regular basis, the class will be counted and absences observed. If you have a large number of unexcused absences (> 5), or if you display a flagrant lack of punctuality, I reserve the right to have you withdrawn from class. Attendance is strongly encouraged. Students are held responsible for all material, handouts, and assignments presented in lecture and lab, **whether discussed in**

class or not. A good record of participation in class will be taken into consideration for a student who is on the border-line between two grades.

Prerequisite: CHEM 1103 & 1121 General Chemistry I or CHEM 1023 & 1031 Introduction to Chemistry; MATH 1043 College Algebra

Text (Required): The Nature and Properties of Soils, 13th Edition; Nyle C. Brady & Ray R. Weil.

Equivalent Text: The Elements of the Nature and Properties of Soils, 2nd Edition; Nyle C. Brady & Ray R. Weil.

Spring Break: March 17th to the 21st

Final Exam: May 6th, 10:30am to 12:30pm (Tuesday)

Students With Disabilities:

It is the policy of the University of Arkansas--Monticello to accommodate individuals with disabilities pursuant to federal law and the University's commitment to equal educational opportunities. It is the responsibility of the student to inform the instructor of any necessary accommodations at the beginning of the course. Any student requiring accommodations should contact the Office of Special Student Services located in Harris Hall Room 120; phone 870 460-1026; TDD 870 460-1626; fax 870 460-1926.

Please note that the last line would change for technical campuses to include:

McGehee: Office of Special Student Services representative on campus; phone 870 222-5360; fax 870 222-4709.

Crossett: Office of Special Student Services representative on campus; phone 870 364-6414; fax 870 364-5707.

Cheating and **P**lagiarism **R**equirement

Cheating: The possession, receipt, use, buying or selling, or furnishing of unauthorized help while doing any of the following, but not limited to:

- assignments
- reports
- term papers
- quizzes
- tests
- providing answers
- homework (e.g., copying homework assignments and/or answers)
- use of pre-programmed calculators (e.g., formulas)

When in doubt about the acceptance of providing or getting help for the activities mentioned above, consult your instructor.

Plagiarism: The use of writings, concepts, or thoughts of **another**, which are specific information and not common knowledge, without acknowledging the source(s). As used above, **another** is any of the following, but not limited to:

- any person
- any text from a book, journal, magazine, or other printed material
- any electronic source (internet source, word document file, or any digital data)

Examples of common knowledge compared to specific information are:

- The sun will rise tomorrow is common knowledge.
- The sun will rise at 6:01 a.m. on 1 July 2004 (NWS 2003) is specific knowledge.
- Florida, as a retirement state, has a lot of older people is common knowledge.
- As of 2002, 2,854,838 people over the age of 65 lived in Florida (U.S. Census Bureau 2003) is specific knowledge.

Direct quotations should be indicated using quotation marks and proper acknowledgement of the source. Paraphrasing is the use of writings, concepts, or thoughts of another rephrased in your words that captures the meaning of the original author. Cite the source of paraphrases also.

Examples using quotations and paraphrasing:

The original text from Leopold (1933) reads: In hoofed mammals there is so far no visible evidence of any density limit except the carrying capacity of food.

Correct direct quotation reads: “In hoofed mammals there is so far no visible evidence of any density limit except the carrying capacity of food.” (Leopold 1933)

Correct paraphrase reads: Ungulates are density-dependent only in relation to forage (Leopold 1933).

Plagiarized/incorrect quote reads: In hoofed mammals there is so far no visible evidence of any density limit except the carrying capacity of food.

Plagiarized/incorrect paraphrase may read: Ungulates are density-dependent only in relation to forage.

Other examples of plagiarism include, but are not limited to:

- Failing to provide a reference (attribution).
- Copying graphics and pictures from the internet without a reference (attribution).
- Paraphrasing without a reference (attribution).
- Submitting someone else’s work.

When in doubt about plagiarism consult your instructor.

Laboratory Topics (by week):

1. Introduction to soil variability
2. Minerals, rocks and weathering
3. Soil color and texture I
4. Gravimetric water content and texture II
5. Bulk density and volumetric water content
6. Exam I
7. Soil strength and Atterberg Limits
8. Sampling scale and soil water potential experiment

9. Experimental evaluation of time domain reflectometry
10. Erosional processes I- The Dust Bowl
11. Exam II
12. Soil organic matter determination
13. Use and interpretation of soil surveys
14. Tests of soil chemical properties (wet chemistry)
15. Soil pH: determinations using water and salt solutions
16. Erosional processes II- definitions and modeling
17. Stream morphological responses to land management

Specific Learning Objectives:

In accordance with the new outcomes-based assessment policy, all students are required to demonstrate proficiency in all core competencies in both portions of this course at least once during the semester. Failure to demonstrate proficiency in all core competencies will result in one of two options (determined by the instructor):

- 1) A course grade of “D” may be assigned regardless of overall average;
- 2) A course grade of “T” may be assigned which later can be converted to the grade earned based on course average once proficiency in all core competencies have been demonstrated. The instructor will provide additional assignments so that the student can demonstrate mastery of the core competency/ competencies that was/ were not mastered during the regular semester. The time limit for this option is 4 weeks from the date of the final examination.

Successful completion of this course is accomplished by fulfilling two sets of assessment requirements. First, a general understanding of all course materials such that 70% of all coursework is deemed “correct” is required. Second, students must illustrate mastery of key concepts that are central to tree ecophysiology.

Mastery of the materials is shown by successfully completing the following core competencies:

- a) Define the components of soil color;
- b) Calculation of bulk density, gravimetric and volumetric water contents, and indirect derivation of all of these parameters when given appropriate information;
- c) Identify soil textural classification based upon percentages of sand, silt, and clay;
- d) Calculate the percentages of sand, silt, and clay in a sample based on sedimentation analyses;
- e) Identify soil map units (series) using a published soil survey;
- f) Calculate the quantity of N, P, and K present in a mixed fertilizer;
- g) Identify at least three factors that influence the decomposition of organic matter;
- h) Define the components of the Universal Soil Loss Equation and calculate the estimated loss of soil given specific conditions;
- i) Describe the mechanisms of soil erosion for both water and wind erosion.

By typing or signing your name in the box below, you are stating, without condition, your compliance with the following in regard to all required coursework:

- (1.) all aspects of the UA-M Conduct Code have been followed with respect to all assignments, laboratory reports, or exams to be completed during this semester;
- (2.) the work you submit is yours and yours alone unless part of a group assignment or group laboratory report;
- (3.) you will not cheat or plagiarize at any time while completing your assignments, laboratory reports, or exams; and
- (4.) for exams, you will not discuss their content with any other student in the class until all students have completed the exam and the answers are made available.

Violation of any or all of these conditions, whether they are discovered or witnessed before, during, or after any assignments, laboratory reports, or exams have been taken and/or completed and submitted for grade, will constitute a violation of the UA-M conduct code and will be reported to and punishable by the UA-M Judicial System. The process is initiated through the Dean's office.

Signing or printing your name on assignments, lab reports, and exams during this semester means that you understand what you signed today in class and will be liable for your actions.

Signature:	Date:
Printed Name:	

*See the body of the syllabus for definitions and examples.