

**SOILS – 252**  
**SPRING SEMESTER 2020, (3CR.)**

**Instructor: Dr. Nicole Pietrasiak**

Office: Skeen Hall Room N328

Office hours: Mo 1.00 pm – 3.00 pm or by appointment.

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**CLASS SCHEDULE:**

**Days:** M, W, F, Jan 22 – May 15 at 9:30 - 10:20 am

**Room:** Gerald Thomas 337

**Window of Early Performance Grades:** Feb 28 – Mar 3

**Holidays on:** Spring Break Mar 23-27; Spring Holiday Apr 10

**COURSE OVERVIEW:** Soil is a reusable, but not necessarily renewable natural resource that can store water and nutrients to support vegetation as well as decompose and recycle wastes and contaminants. Soil comprises the critical zone where the hydrosphere (water), atmosphere (gases), lithosphere (rocks and minerals), and biosphere (organisms) all intersect. This course is designed for undergraduate students interested in learning basic soil science and its applications to Environmental Science, Natural Resources, Plant Science, and Agriculture.

**LEARNING OBJECTIVES:** To present a broad overview of the nature and properties of soil. The focus of the course will be towards agronomic and ecological aspects of soils. If you are interested in the engineering uses of soil look up Soil Mechanics classes in the College of Engineering.

General learning goals:

- 1) Distinguish major types of soils based on their physical, chemical, and biological properties.
- 2) Gain a basic understanding of soil formation including the factors and processes that shape soils.
- 3) Understand how soils influence our lives and the environment.
- 4) Describe and explain why soil is often called the “critical zone” at the interface of the atmosphere, geosphere, hydrosphere and biosphere.
- 5) Apply learned concepts to real world problem sets.
- 6) Interpret data from scientific graphs and tables.
- 7) Develop and apply skills in oral and written communication.

Specific learning goals and objectives will also be stated in the beginning of every module corresponding to the book chapters and can be found on the first slides in the lecture notes for each module.

**TEXTBOOK AND OTHER MATERIALS:** *Elements of the Nature and Properties of Soils*, Brady, N.C. and Weil, R.R. (*3<sup>rd</sup> or 4<sup>th</sup> edition preferred but accept any edition*) Prentice Hall. New and used textbooks are available at the NMSU Bookstore, online, or will be put on reserve in Zuhl Library. You’ll also need a scientific calculator (e.g., TI-30).

**CANVAS:** If you are registered for this class, you will have access to course material and grades posted on Canvas (see “Canvas” under “Quick Links” from the NMSU homepage). I will post lecture slides, reading assignments, example calculations, quantitative assignments, links to useful sites and tutorials, as well as other material. There are computer labs around campus with printers for your use. If computer access and printing is a problem, let me know immediately so that other arrangements can be made to facilitate your learning. For technical help and locating resources, see <http://studenttech.nmsu.edu/computer-labs/>

**ATTENDANCE:** I will apply active learning activities and a flipped classroom approach. Thus, attendance in lecture is vital if you want a good grade. When class attendance is noticeably low, I will start administering “pop” quizzes. My goal is to keep you engaged and learning, not just passively sitting through lectures. In order to accomplish this, everyone has to come to class prepared having read and reviewed the material in advance. I will incorporate lots of active learning exercises into the class but the benefits of this depend on your showing up, participating and being prepared. According to the NMSU Advising website: “*Estimated study time per credit during a 15-week semester is 2-3 hours per week for each enrolled credit.*”

**GRADING:**

|                                      |             |
|--------------------------------------|-------------|
| Reading assignments                  | 20%         |
| Quizzes                              | 25%         |
| Assignments (6 total)                | 30%         |
| In-class exercises and “pop quizzes” | 15%         |
| Attendance and participation         | 10%         |
| <b>Total</b>                         | <b>100%</b> |
| Extra credit                         | 5%          |

|    |           |    |           |    |           |    |           |
|----|-----------|----|-----------|----|-----------|----|-----------|
| A+ | >99%      | B+ | 87-89.95% | C+ | 77-79.95% | D+ | 67-69.95% |
| A  | 93-98.95% | B  | 83-86.95% | C  | 73-76.95% | D  | 63-66.95% |
| A- | 90-92.95% | B- | 80-82.95% | C- | 70-72.95% | D- | 60-62.95% |
|    |           |    |           |    |           | F  | <60%      |

**GRADE DISPUTES:** If you feel that graded material (assignment or quiz) has been incorrectly *tallied*, please bring it to my attention immediately. If you have a disagreement with the amount of partial credit you receive on a quiz or assignment, **explain your case in writing** and submit for a response **within one week** of the return of your quiz or assignment. Include your original quiz or assignment as well. In the case of multiple-choice questions, you will only get credit for the single best answer. You also only get full credit if you answer the entire question.

**GRADE POSTING:** Grades for quizzes, assignments, activities, etc. will be posted on Canvas. Because Canvas does not count dashes in your calculated grade, there are zeros in all of your assignments until the grade is posted. To comply with FERPA laws, all students **are required** to use their **NMSU email accounts** for contact and information about grades or other sensitive information.

**EXAMS AND QUIZZES:** THERE WILL BE NO EXAMS IN THIS CLASS!!! YAY! Except for the first take-home quiz, **quizzes** will be in general administered **after each book chapter** (=module quizzes). Quizzes will usually be given at the beginning of class and will include questions pertaining to the reading material as well as material presented in the lectures. The lowest module quiz grade will be dropped. Missed module quizzes cannot be made up without an **approved** University activity on that day. Please notify me *in advance* of the quiz. If you arrive after a quiz has been collected for the day, you may **not** take it. Quizzes will be short answer, compare/contrast, multiple choice and true or false questions. Some quizzes may have simple calculations and I will announce if you need to bring a calculator. Assignments are take-home and will have an assortment of questions including compare/contrast, interpreting graphs, short answers, essay questions, and calculations. Since I will administer **take-home assignments**, no make-up assignments are given. All work, including conversions and proper units, must be shown with the answers in order to earn full credit. Also, I must be able to read your writing, so please **write neat and legibly**. If I am unable to read your writing you may not achieve all points. Also, everyone will

have their own data and thus their own answers to calculations or problem sets. If you cannot turn in your **assignments** in class on the day it is due, you may leave it in my department office mailbox in Skeen Hall 127N **by 5 pm**. Do not put any of your material under my office door – they can easily get lost.

**LATE ASSIGNMENT POLICY:** My goal is to give you adequate time and instruction to complete your assignments. Unlike the “real world” I may accept late assignments and quiz 1 **up to 4 days after the due date** unless other arrangements are made. However, total points will be reduced **twenty percent for each day any assignment is handed in late**.

**READING ASSIGNMENTS:** Using active learning and a flipped class approach requires you to read from the textbook or provided reading material before you come to class so that you have the necessary information. Your before-class assignments will give you the information that we will then build on by using in-class activities. The reading assignments will guide your reading and focus you on the essential content. Readings are **due before class** and are submitted via CANVAS. Reading assignments will be announced at each lecture period.

**EXTRA CREDIT:** Occasionally there will be opportunities to present in class, attend seminars, films, help with outreach activities, etc., that may provide some learning opportunities and “extra credit”. These will be announced in class and posted on Canvas along with the requirements needed to receive credit. If you have suggestions for such activities, please let me know via email and include all the details. Cumulative extra credit, referred to as “miscellaneous” could comprise up to 5% of your class letter grade.

**CLASSROOM ATMOSPHERE:** My goal is that everyone in the class, including myself, will be treated with respect and dignity. I will try my best to make the class an enjoyable and worthwhile investment of your time and energy and I expect you to do your part by studying, coming to class prepared, and actively participating in class. Please silence your cell phones while in class (**No texting or taking calls is permitted during lecture periods; you cannot use your phone as a calculator in quizzes**). I sincerely hope that you will gain an appreciation, if not love, for soils and soil science by the end of this course.

**DISCRIMINATION AND DISABILITY ACCOMODATION:** Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADA) covers issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact: Student Accessibility Services (SAS), Corbett Center Student Union Room 208, Trudy Luken, Director. Tel: 575-646-6840. Email: [sas@nmsu.edu](mailto:sas@nmsu.edu).

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Title IX prohibits sex harassment, sexual assault, intimate partner violence, stalking and retaliation. For more information on discrimination or Title IX, or to file a complaint contact: Laura Castille, Executive

Director and Title IX Coordinator, Office of Institutional Equity (OIE) - O'Loughlin House, 1130 University Avenue, Phone: (575) 646-3635, E-mail: [equity@nmsu.edu](mailto:equity@nmsu.edu), Website: <http://equity.nmsu.edu/>.

**ACADEMIC AND NON-ACADEMIC MISCONDUCT:** The Student Code of Conduct defines academic misconduct, non-academic misconduct and the consequences or penalties for each. The Student Code of Conduct is available in the NMSU Student Handbook online: <http://studenthandbook.nmsu.edu/>. Academic misconduct will not be tolerated and will result in severe penalties including an F in the class. This means not copying your classmates' answers and no plagiarism. Academic misconduct is explained here: <http://studenthandbook.nmsu.edu/student-code-of-conduct/academic-misconduct/>.

**Other NMSU Resources:**

NMSU Police Department: (575) 646-3311 [www.nmsupolice.com](http://www.nmsupolice.com)

NMSU Police Victim Services: (575) 646-3424

NMSU Counseling Center: (575) 646-2731

NMSU Dean of Students: (575) 646-1722

For Any On-campus Emergencies: 911

**OTHER HELP:** The Center for Academic Success is a valuable resource center for help in note taking, test taking, time-management and other useful academic skills. The website is very informative (<http://ssc.nmsu.edu/>) or you can visit in person at Corbett Center, Room 148 (Aggie Underground). Also, I am happy to see you during office hours and provide whatever help I can. I look forward to working with all of you!

**SOIL 252L:** The lab is a separate 1 credit course that is only required for certain majors. See your advisor if you are unsure whether you are required to take it. It's a fun hands-on experience that helps explain many of the lecture concepts, so I encourage you to enroll if you have the time and interest.