PS 103

Introduction to Soils

Pierce College

Text

Soil Science and Management, 6th Edition
Edward Plaster Dakota County Technical College, MN
ISBN-10: 0840024320 | **ISBN-13:** 9780840024329

Student Learning Outcomes

1. The student will synthesize the basic principles of managing soil organisms and soil fertility.
2. The student will analyze and evaluate local soil data.
3. The student will understand and apply soil conservation practices.

Contact

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Office Hours

Monday 9:00am-10:00am, 4:00pm-4:45pm

Friday 2:00-2:45

Or by appointment

Academic Honesty Policy

I. Violations of academic honesty and integrity occur when a student engages in fraud or deception while performing an academic activity.

This includes cheating, plagiarizing, unauthorized use of electronic devices, notes, hiring someone to take a test for you, copying of answers,

falsifying records, using secret codes, or conspiring with other students to commit academic fraud.

II. Consequences for any offense against academic honesty and integrity will result in an "F" or a "0" on the assignment and/or suspension from the class or other sanctions or penalties authorized by the board of trustees.

- **Plagiarism** means passing off someone else's work as your own without giving them credit
- You must cite your sources or you will receive an F for plagiarism

Letter to Students

Dear Soil Scientist,

Welcome to PS 103, Introduction to Soils. You are now a part of a community of researchers. As you probably know, this is a GE requirement for CSU area B1 and is transferrable to both the UC and CSU. I am excited to be teaching this class as an authentic research experience! I am certain that by the end of this class you will share my enthusiasm toward soil science and conservation.

Course Description

This course involves the study of the physical, chemical and biological properties of soil. Students will learn about soil classification, and its derivation, use, and function. Management issues, including erosion, moisture retention, structure, cultivation, organic matter and microbiology will also be covered. In the laboratory, students will participate in experiments involving soil type, classification, soil reaction, soil fertility and physical properties of soil. The laboratory portion is a requirement of this class.

Course Basics

The name of this course is PS 103, Introduction to Soils.

The start date of this class is 8/31/2016. The course goes until 12/14/2017.

In this course, we will be using the Canvas LMS (Learning Management System). Your first assignments in Canvas, a brief web survey and lab safety quiz, are due in week 1 so you are going to need the information below. In addition, your quizzes and tests will be assessed in Canvas.

Getting started with Canvas

Login Directions:
1. Go to ilearn.instructure.com
2. Username = your student ID number, example: 881234567
3. Password = 88mmdd or 88 + month + day you were born, example 880101 for Jan 1 birthday

Student Help Desk

If you get stuck or need help, please review the link below with frequently asked questions first!

http://moodle.piercecollege.edu/file.php/1/StudentHelpDesk/StudentHelpFAQ.html

There is also a support desk for Canvas! For questions during business hours - M-TH 9 AM-5 PM and F 8 AM - 3:30 PM - please send an email to onlinehelp@piercecollege.edu. After hours Monday-Friday 5pm–8am and Weekends – call | 1–844–303–5589

Login Issues

If you have trouble logging in to your course, please contact Azita at online@piercecollege.edu for assistance.

Preferred Method of Contact

My preferred method of contact is by email. Please send correspondence to stclais@piercecollege.edu. You can also reach me by skype, listed under savanaht@yahoo.com .

Thank you for reading; now that we have these important details out of the way, we are off to a great start!

Number of Student Hours

This is a 3 unit course, for a total of 72 hours "in class". This does not include time spent on homework. You can expect to spend an average of 6 hours a week on study and homework. Half of the in-class hours are attributable to the lecture. You are required to meet in person for laboratory activities once a week, with 36 laboratory hours overall.

There are required in-person lab meetings weekly for this class. Lab meets on Wednesday from 3:05-5:10pm.

Disabled Students Services

To find out more information about the Pierce College center who supports accommodations for students who are disabled, please click the link below.

The Disabled Student Services website
http://www.piercecollege.edu/offices/special_services/ (Links to an external site.)

ESSENTIAL RESOURCES
As a Pierce College student, you may avail yourself to many valuable student resources. Below is a partial list of these resources. A complete list of student resources can be found on the Student Services website at www.piercecollege.edu. Please do not hesitate to ask your instructor if you need assistance in accessing any of theses resources.

- **Special Services**: for students with disabilities
  Student Services Building Room 48175
- **Center for Academic Success**: provides subject area and math tutoring
  Village 8401 and 8402 (Math)
- **Computer Lab**: computers, printers, Internet access and auto-tutorial programs
  Village 8406 and 8407
- **Writing Lab**: for assistance with writing assignments
  Online: http://moodle.piercecollege.edu/course/view.php?id=6304
  Or go to Pierce OnLine and log into Moodle and click the OWL tab
- **Pierce College Library**: print, digital and reference materials
  1800 Building Second Floor (mid-mall area)
- **Veterans' Affairs**
  Student Services Building, Second Floor
  http://community.piercecollege.edu/veterans/education.htm
- **Student Health Center**
  Student Services Building, Second Floor
- **Financial Aid**
  Student Services Building, Second Floor
  http://www.piercecollege.edu/offices/financial_aid

Extra Credit Policy

The instructor may offer extra credit opportunities for 4 points each, such as volunteering for agriculture events, attending voluntary field trips, and visiting the Center for Academic Success, for example. Extra credit opportunities, if offered, will be available to all students.

PS 103 Soils Lab Rules

The PS 103 Soils Lab rules apply to lab sessions taking place at Horticulture, in the field, or at the Center for Sciences. You may wear sandals, birkenstocks, flip-flops, etc. in lecture only, with the exception of field trip days where you must wear closed-toe shoes.

Lab rules:

You will work collaboratively with other students.

No food or drink is allowed in the lab.

You must wear long pants or a long skirt to this class.

You must wear closed-toe shoes in the lab.

You must wear eye protection in the lab. Goggles or safety glasses are acceptable.

You must wear gloves in the lab. Do not wear gloves outside the lab.

Do not pour chemicals or soil down the sink.

Be respectful to your tutors, instructor, staff, and peers.

Breaking the lab rules is grounds for dismissal from the lab period and loss of 4 lab participation points.

First Assignment

During the first week of class you are required to complete an online Lab Safety Quiz after watching the Lab Safety Video (https://ilearn.instructure.com/courses/5618/modules/items/90024).

If you do not wear your personal safety equipment or proper attire at *each* lab you may be dismissed from the lab period and lose 4 lab participation points.

How to earn lab participation points:

You earn lab participation points by staying after class a minimum of 3 times; you earn 4 lab participation points each time. You must earn 12 participation points for lab in order to receive full lab points in this class. All students must clean up after themselves and their groups during each lab session; the lab participation points represent staying to clean up and take down the lab after the rest of the class has left. Leaving without cleaning up satisfactorily is another way to lose 4 lab participation points.

How to write Lab Reports

- We will compose scientific writing in this class.
- You will be provided with specific details for what is expected and you will receive a rubric for each report.

Please refer to the resource at the link below for more information on how to write lab reports:

https://ilearn.instructure.com/courses/5618/files/154247?module_item_id=89995

Academic Dishonesty

Quizzes and Exams are not crowdsourced. You may study with your lab group but you may **not** share test answers or work together on tests with your class mates or any other individual. If I find out you are cheating on quizzes or exams you will receive a zero for the assignment.

Course tutor

We have a soils tutor, Madison Blaney, who is available for six hours a week outside of class to assist you.

Grading Criteria

>90% A >80% B >70% C >60% D <60% F

Assignment Breakdown	Points Possible
Lab safety Quiz I (in person)	4
Lab Safety Quiz II (online)	4
Lab flowchart 1	4
Percent Moisture data	4
Quiz I	50
Percent Organic Matter data	4
Ch 2 CERA	4
Bulk Density and Porosity data	4
Ch 4 CERA	4
BLAST results	4
Test I	100
Soil parent materials lab observations	4
Quiz II	50
Soil Texture Data	4
Lab notebook check	4
Ch 9 CERA	4
Lab Report I	100
Test II	100
Ch 11 CERA	4
Lab flowchart 2	4
Lab Report II	100
Lab flowchart 3	4
Fertilizer applications solutions	4
Reading Response I	4
Lab Report III	100
Reading Response II	4
Reading Response III	4
Quiz III	50
Lab Report IV	100
Test III	100
Final Lab Report	100
Lab Notebooks	4
All data in Google doc	4
Final Presentation	100
Lab Participation points	12
TOTAL points possible	**1150**

Schedule provided below is tentative

Date	Lecture Topic	Chapter in Plaster	Supplemental Material	Lab Activities	Due Today
9/2/2016	Introductions, The Soil Around Us	Ch 1	Keeping a Lab Notebook, Reading success strategies	Pipetting skills, Norms	Lab safety Quiz I (in person)
9/9/2016	Tillage and Cropping Systems	Chapter 16	Writing Lab Reports, DNA Extr. Video, Purdue Agronomy Tillage	Field Activities, Moisture Determination, DNA Extract.	Lab Safety Quiz II (online), Check-in survey, Ch 16 CERA
9/10/2016					Last Day to Add with Permit
9/11/2016					Last Day to Drop w/o "W"
9/16/2016	Life in the Soil	Chapter 5	The Living Soil	Field Activities, Organic Matter	Percent Moisture, Ch 5 CERA
9/20/2016					Quiz I
9/23/2016	Soil Origin	Chapter 2	Soil is, Soil Does, Soil Can Do	Field activities, Bulk density sampling, Soil microbio BLAST	Percent Organic Matter data, Ch 2 CERA
9/30/2016	Soil Physical Properties	Chapter 4	Writing Lab Reports, DNA Extr. Video, Purdue Agronomy Tillage	Soil parent materials, soil texture by touch	Bulk Density and Porosity data, Ch 4 CERA, BLAST results
10/4/2016					Test I
10/7/2016	Soil Water	Chapter 7	Soil Water Dynamics, Plant & Soil Science Lib. Soil Water	Soil Texture by hydrometer	Soil parent materials lab observations, Lab notebook check, Lab flow chart
10/11/2016					Quiz II
10/14/2016	Irrigation and Drainage, pH	Chapter 9	Intercollegiate pH ppt, Water conductivity background info	Soil pH, EC, TDS	Soil Texture Data, Lab Report I, Ch 9 CERA
10/18/2016					Test II
10/21/2016	Soil pH	Ch 11	Soil Acidity and Fertility	Microbio lab	Ch 11 CERA, Lab flowchart
10/28/2016	Plant Nutrition (Micro & Maco Nutrients)	Chapter 10	UCSC Soil Fertility	Microbio lab	Lab Report II, Lab flowchart
11/4/2016	Fertilizers and Amendments	Chapter 12-15	Fertilizer Calculations, CROPS Fertilizers	TAPPS: Soil fertilizer problems	Fertilizer applications solutions
11/11/2016	Soil Microbiology	Chapter 12	Project Overview	Soil nutrients lab I	Reading Response I
11/18/2016	Soil Flora		Research article	Soil nutrients lab II	Lab Report III
11/20/2016					Last day to drop w/ a "W"
11/25/2016	Nitrogen-Fixing bacteria		Research article	Soil nutrients lab III	Reading Response II
12/2/2016	Soil bacteria		Data Analysis I	Data Manipulation	Reading Response III
12/6/2016					Quiz III
12/9/2016	Soil Ecology		Data Analysis II	Data Analysis	Lab Report IV
12/15/2016					Test III
12/16/2016	**Final Day 12pm-2pm- Group Presentations Due**				Final Lab Report, Lab Notebooks, All data in Google doc