



Course Syllabus

AGCR 2318 – Soil Science

Catalog Description: Introduction to the physical, chemical, and biological properties of soils. Topics include the relationship between crops and soils, conservation of soil and water resources, and the economic use of fertilizer.

Lecture hours = 2, Lab hours = 3

Prerequisites: none

Semester Credit Hours: 3

Lecture Hours per Week: 2

Lab Hours per Week: 3

Extended hours:

Contact Hours per Semester: 80

State Approval Code: 01.0302

Class section meeting time:

Instructional Goals and Purposes: At the conclusion of this course students should be able to explain principles of soil formation and classification; determine soil physical, chemical, and biological properties; utilize the principles of soil and water conservation; interpret soil analysis; and determine application of fertilizers.

Learning Outcomes:

1. Explain principles of soil formation and classification.
2. Determine soil physical, chemical, and biological properties.
3. Understand the relationship between crops and soils.
4. Understand how to utilize the principles of soil and water conservation.
5. Interpret soil analysis.
6. Understand how to determine the need for fertilizer application.

Specific Course Objectives (includes SCANS):

After studying all materials and resources presented in the course, the student will be able to:

- 1. Explain principles of soil formation and classification.** (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)
 - a. Understand the importance of soil and how it was formed.
 - b. Discuss the various uses of soil.

c. Discuss the various soil classifications.

2. Determine soil physical, chemical, and biological properties. (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)

- a. Discuss the importance of soil pH and salinity.
- b. Understand soil texture, structure, density and permeability.

3. Understand the relationship between crops and soils. (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)

- a. Discuss plant nutrition.
- b. Understand soil fertility and how that relates to crops.

4. Understand how to utilize the principles of soil and water conservation. (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)

- a. Identify various causes for erosion
- b. Identify methods and principles used for soil and water conservation.
- c. Understand the importance of drainage and irrigation.

5. Interpret soil analysis. (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)

- a. Understand the reasons you would need to test the soil.
- b. Discuss the method used to take a soil sample.
- c. Understand how to read a soil analysis.

6. Understand how to determine the need for fertilizer application. (SCANS 1ci, 1civ, 2ai, 2aiii, 2ci, 2cii, 2ciii)

- a. Discuss the various types of fertilizers and how they are applied.
- b. Determine the effects that fertilizers have on the soil.

Course Content: Students in all sections of Supervision will be required to do the following:

1. Students will complete quizzes and assignments based on the material provided for the course.
2. Students will complete online quizzes and objective exams.

Methods of Instruction/Course Format/Delivery: Content for the course will be delivered using lecture, textbook content and online instruction. Students in traditional, hybrid and Internet classes will have access to courses via Canvas. Students in the traditional class will meet regularly for lecture. Students in the Internet class will be required to take quizzes and exams at an approved testing facility or, they may also be administered by the instructor. Students in hybrid classes will have both in class and online assignments. Resources for this course, provided through Canvas, include the following Sections in Canvas....

- Modules: Chapter study materials, self-assessment exercises, quizzes and exams
- Announcements and Recent Activities List: Instructor Announcements
- Inbox: Email (to communicate with instructor and classmates inside Canvas)
- Grades: Student grades

• Other sections, as assigned by the Instructor: Students in both the traditional and Internet classes should use the People feature within Canvas (includes Canvas Email) to communicate with the instructor. Using Canvas Email located in the “In Box” menu, gives the student access to the instructor and other classmates without having to remember or type email addresses; the student just selects a name from the list. The instructor will attempt to respond to all Canvas email within a timely manner. Please always include in the subject line of the Canvas email, the student’s name, course number and course section number.

Assessment:

The following items will be assigned during the semester and used to calculate the student’s final grade:

- **Quizzes and Assignments**
 - o Students will read the required material and complete quizzes and assignments over the content. The ability to makeup late quizzes and assignments will be determined by the instructor for a reduced score.
- **Tests**
 - o There will be three tests. In the online section the second test and the Final will be given in the Testing Center locations only. Students are only allowed ONE makeup test dues to an excused absence per semester with the approval of the instructor.
- **Final Exam**
 - o The Final Exam will be cumulative. In the online section the Final will be given in the Testing Center locations only.

Course Grade:

The grading scale for this course is as follows:

- Quizzes and Assignments – 25%
- Tests – 50%
- Final Exam – 25%

Grading Notes:

Missed Exams: Missed exams due to an excused absence should be scheduled with the instructor within one week of the missed exam. It is the responsibility of the student to reschedule the makeup with the instructor. The Instructor reserves the right to change the test format of any makeup.

In the event of an unexcused absence on the day of a quiz or exam the student will **not** be able to make up the exam.

You will only be able to make up ONE exam due to an excused absence. If you miss more than one exam for any reason you will not be able to make it up.

NO MAKEUP WORK WILL BE ACCEPTED DURING FINALS WEEK

Missed Quizzes and Assignments: Missed quizzes and assignments due to an excused absence should be rescheduled within one week of the scheduled quiz or a date assigned by the Instructor. It is

the responsibility of the student to reschedule makeup quizzes. The Instructor reserves the right to change the test format of the makeup quiz.

Late work for an unexcused absence: There will be a 10 point reduction in the score if the assignment is turned in after the listed due date and time. (Example: The assignment is due at 1 pm and you submit it at 4 pm you will receive a 10 point deduction from the original score.) There will also be a 10 point deduction for everyday the assignment is late. (Example: If you turn the assignment in 3 days late you will receive a 30 point deduction from your original score.)

NO MAKEUP WORK WILL BE ACCEPTED DURING FINALS WEEK

Attendance: Attendance is based on the student missing no more than 10% out of the semester without proof of an excused absence. After the 10% the instructor may withdraw the student at their discretion. Any student thirty or more minutes late will be counted absent. Students that leave before class is dismissed will be counted absent.

You will also be expected to show up to class on time each day! After accumulating three tardies, each tardy will count as an unexcused absence.

Excused absences are those due to a pre-approved school sponsored trip, a death in the family (you will need a funeral pamphlet) or a sickness (in which case a doctor's note is required).

For face-to-face classes that meet once a week:

Attendance will be mandatory. Roll will be taken at the beginning of every class. At the end of the semester, any student who has **two unexcused absences** will be penalized **one letter grade**. If a student accumulates **three or more unexcused absences**, the grade for the class will be an automatic "F".

Plagiarism: Plagiarism shall be defined as appropriating, buying, receiving as a gift or obtaining by any other means, another person's work and the unacknowledged submission or incorporation of it in one's own written work. All papers submitted to Canvas will be scanned with turnitin.com and the instructor reserves the right to dock points based on the results.

Cheating: Cheating on a test shall include:

- a. Copying from another student's test
- b. Using test materials not authorized by the person administering the test
- c. Collaborating with or seeking aid from another student during a test without permission from the test administrator
- d. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of an unadministered test.

- e. The unauthorized transporting or removal, in whole or in part, of the contents of the unadministered test.
- f. Substituting for another student, or permitting another student to substitute for one's self, to take a test.
- g. Bribing another person to obtain an unadministered test or information about an unadministered test. Absolutely no cheating is tolerated.

Cheating in this course will not be tolerated and will result in an "F" for the course.

Class Conduct: All cell phones should be turned off and put away in all classes. If you must receive a call notify your instructor before class begins and step out of the classroom. The use of cell phones (texting, calls, internet, ect.) during class will result in 5 points being taken from the students Test grade for every offense.

Asking of questions and discussion of relevant information in and outside class is highly encouraged; however, talking to neighbors, texting, sleeping, foul language or studying for other courses during class time will not be tolerated.

Grading Scale A=90-100, B=80-89, C=70-79, D=60-69, F=59 and below

A student that chooses to NOT finish the course must complete the withdrawal procedure in the Student Success office in order to receive a —W. || Otherwise, the student will receive a grade at the end of the semester commensurate with the work completed.

Students needing special classroom or testing accommodations because of physical or learning disabilities must contact the Student Success office before these services will be made available in the classroom.

Texts, Materials, and Supplies:

Soil Science and Management, 6th ed.

ISBN-13: 978-0840024329

ISBN-10: 0840024320

Other:

- For current texts and materials, use the following link to access bookstore listings: <http://www.panolacollegestore.com>
- For testing services, use the following link: <http://www.panola.edu/elearning/testing.html>
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Administration Building or go to <http://www.panola.edu/student-success/disability-support-services/> for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.

- Student Handbook, *The Pathfinder*:
<http://www.panola.edu/student-success/documents/pathfinder.pdf>

SCANS CRITERIA

1) **Foundation skills are defined in three areas: basic skills, thinking skills, and personal qualities.**

- a) **Basic Skills:** A worker must read, write, perform arithmetic and mathematical operations, listen, and speak effectively. These skills include:
 - i) Reading: locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules.
 - ii) Writing: communicate thoughts, ideas, information, and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.
 - iii) Arithmetic and Mathematical Operations: perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.
 - iv) Listening: receive, attend to, interpret, and respond to verbal messages and other cues.
 - v) Speaking: Organize ideas and communicate orally.
- b) **Thinking Skills:** A worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively. These skills include:
 - i) Creative Thinking: generate new ideas.
 - ii) Decision Making: specify goals and constraints, generate alternatives, consider risks, and evaluate and choose the best alternative.
 - iii) Problem Solving: recognize problems and devise and implement plan of action.
 - iv) Visualize ("Seeing Things in the Mind's Eye"): organize and process symbols, pictures, graphs, objects, and other information.
 - v) Knowing How to Learn: use efficient learning techniques to acquire and apply new knowledge and skills.
 - vi) Reasoning: discover a rule or principle underlying the relationship between two or more objects and apply it when solving a problem.
- c) **Personal Qualities:** A worker must display responsibility, self-esteem, sociability, self-management, integrity, and honesty.
 - i) Responsibility: exert a high level of effort and persevere toward goal attainment.
 - ii) Self-Esteem: believe in one's own self-worth and maintain a positive view of oneself.
 - iii) Sociability: demonstrate understanding, friendliness, adaptability, empathy, and politeness in group settings.
 - iv) Self-Management: assess oneself accurately, set personal goals, monitor progress, and exhibit self-control.
 - v) Integrity and Honesty: choose ethical courses of action.

2) **Workplace competencies are defined in five areas: resources, interpersonal skills, information, systems, and technology.**

- a) **Resources:** A worker must identify, organize, plan, and allocate resources effectively.
 - i) Time: select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
 - ii) Money: Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
 - iii) Material and Facilities: Acquire, store, allocate, and use materials or space efficiently. Examples: construct a decision time line chart; use computer software to plan a project; prepare a budget; conduct a cost/benefits analysis; design an RFP process; write a job description; develop a staffing plan.

- b) **Interpersonal Skills:** A worker must work with others effectively.
- i) Participate as a Member of a Team: contribute to group effort.
 - ii) Teach Others New Skills.
 - iii) Serve Clients/Customers: work to satisfy customer's expectations.
 - iv) Exercise Leadership: communicate ideas to justify position, persuade and convince others, responsibly challenge existing procedures and policies.
 - v) Negotiate: work toward agreements involving exchange of resources, resolve divergent interests.
 - vi) Work with Diversity: work well with men and women from diverse backgrounds.
- Examples: collaborate with a group member to solve a problem; work through a group conflict situation, train a colleague; deal with a dissatisfied customer in person; select and use appropriate leadership styles; use effective delegation techniques; conduct an individual or team negotiation; demonstrate an understanding of how people from different cultural backgrounds might behave in various situations.
- c) **Information:** A worker must be able to acquire and use information.
- i) Acquire and Evaluate Information.
 - ii) Organize and Maintain Information.
 - iii) Interpret and Communicate Information.
 - iv) Use Computers to Process Information.
- Examples: research and collect data from various sources; develop a form to collect data; develop an inventory record-keeping system; produce a report using graphics; make an oral presentation using various media; use on-line computer data bases to research a report; use a computer spreadsheet to develop a budget.
- d) **Systems:** A worker must understand complex interrelationships.
- i) Understand Systems: know how social, organizational, and technological systems work and operate effectively with them.
 - ii) Monitor and Correct Performance: distinguish trends, predict impacts on system operations, diagnose deviations in systems' performance and correct malfunctions.
 - iii) Improve or Design Systems: suggest modifications to existing systems and develop new or alternative systems to improve performance.
- Examples: draw and interpret an organizational chart; develop a monitoring process; choose a situation needing improvement, break it down, examine it, propose an improvement, and implement it.
- e) **Technology:** A worker must be able to work with a variety of technologies.
- i) Select Technology: choose procedures, tools or equipment including computers and related technologies.
 - ii) Apply Technologies to Task: understand overall intent and proper procedures for setup and operation of equipment.
 - iii) Maintain and Troubleshoot Equipment: Prevent, identify, or solve problems with equipment, including computers and other technologies.
- Examples: read equipment descriptions and technical specifications to select equipment to meet needs; set up and assemble appropriate equipment from instructions; read and follow directions for troubleshooting and repairing equipment.