

NORTHEAST TEXAS COMMUNITY COLLEGE



Soil Science

AGCR 2418: Soil Science (4 credits)
Course Syllabus

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AGCR 2418: Soil Science Fall, 2018

Course Description:

This course includes a study and application of production techniques and best management practices for the 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. This course constitutes a capstone course. Lecture/Lab/Clinical: Three hours of lecture (most on-line) and two hours of lab each week. **No assigned text. The exams and assignments will be taken from class PowerPoint's, workbooks and class notes:**

Workbooks (all will be made available through blackboard):

Reference Text (not required to purchase): Building Soils for Better Crops; Sustainable Soil Management
Digital copy will be available on blackboard.

General Course Requirements:

Class attendance is required. If you have more than three unexcused absences, you should consult with me about your grade. Anyone who wishes to withdraw from class must take the responsibility to formally drop with the Registrar; otherwise a failing grade will be given.

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Class-times	Office 9-10 Soils 11-12:20	Office 9-10	Office 9-10 Soils 11-12:20	Office 9-10 Small Farming 1:30 to 4:00 pm	By appointment 8 am to noon	N/A

Appointments with me may be scheduled at other times. Call for an appointment at (903) 434-8267, Office AGC 117. E-mail address: rmccracken@ntcc.edu

Course Objectives

1. To understand the basic "language" used by soil scientists including descriptive terminology, taxonomy, and measurements of soil physical properties;
2. To gain an appreciation for global diversity in soil, the uniqueness of Texas soils, and how soils influence agriculture and the economy;
3. To consider soils as essentially a non-renewable resource and how their management can influence the environment and human health;
4. To understand how soils provide nutrition to plants and the role of fertilizers and fertilization in plant growth.

Grading:

Grades will be computed as follows:

(2) Exams:	50%
(2) Assignments – Presentations	20%
Class Participation:	30%

The grading scale below will be used to determine your final grade.

Points	Grade
90-100	A
80- 89	B

70- 79	C
60- 69	D
BELOW 59%	F

Exams:

There will be 2 exams accounting for 50% of your overall grade. Exams will be multiple choice and essay developed from classroom PowerPoint presentations, discussion and workbook. Review quizzes will be provided each week with exams occurring as materials are covered.

Assignments:

There will be at least two presentation assignments on farms that have made improvements in their soil health. Presentations will account for 20% of student's overall grade.

Class Participation:

Class participation is based on attendance, classroom discussion, and participation and will account for 30% of the students overall grade.

Course Outline:

Week 1-4 Organic Matter – The Key to Healthy Soils

Healthy Soils
Organic Matter
Amount of Organic Matter in Soils
The Living Soils

Week 5-8 Physical Properties and Nutrient Cycles

Soil Particles, water, air
Soil Degradation: Erosion, compaction and contamination

Week 9-14 Ecological Soil Management

Soil health, plant health, and pests
Managing for high-quality soils
Cover crops
Crop rotations
Animal Manures
Making and using composts
Reducing erosion and runoff
Preventing and lessening compaction
Reducing Tillage
Managing Water
Nutrient Management
Management of nitrogen and phosphorus
Other fertility issues: Nutrients, CEC, Acidity, and Alkalinity
Getting the Most from routine Soil Tests

Week 15-16 Putting it All Together

How good are your soils?
Putting it all together

ADA Statement

It is the policy of Northeast Texas Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as

required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the Northeast Texas Community College Catalog or Student Handbook.

ACADEMIC HONESTY POLICY

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Assignment #1

Open, review and print out this page of the syllabus for Soil Science.
Turn in this page for your first assignment grade.
Deadline to turn in will be the second full class day.

Student Name: _____

Major: _____

Purpose for taking this course:

Aspect you enjoy most about agriculture and farming?

Open and review the syllabus for soil science. Print out this page and complete and sign it to turn in the first class day. This will be your first assignment grade.

YES - I have reviewed the course syllabus and agree to the terms laid out in it.

Student name and ID

Date