



**AGR 1403 Section 100**  
**Principles of Nutrient Management**  
**Course Syllabus**  
**Term: Spring**

Rhodes State College  
Division of Health Sciences and Public Services  
Agriculture Technology Program

3 Credit Hours  
3 Contact Hours

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**Mission Statement:** Rhodes State College changes lives, builds futures and improves communities through life-long learning.

**Program Mission Statement:**

The Agriculture Technology program is designed to provide students with practical education in an increasing demand field of agriculture business, agronomy, prescription mapping, and/or robotics and artificial intelligence.

**Program Learning Outcomes:**

- Communicate effectively in both written and oral form with coworkers, customers, and others in and about agriculture technology.
- Research, design, and use best practices to create environmentally sustainable, productive, and economically viable solutions to agricultural problems and challenges.
- Demonstrate initiative, leadership, and planning in building professional relationships in the agriculture community, and workplace.
- Locate and use information and numerical data in solving problems related to agriculture.

## OVERVIEW

### **Catalog Description:**

Introduces basics of plant nutrition and soil fertility including soil pH and Nitrogen and Carbon cycles as they related to crop production. Practice and recommend soil testing processes, liming and soil amendments, fertilizing, manure management and other nutrient sources and additives. Analysis of fertilizer calculations and soil and tissue testing will be emphasized.

### **Prerequisites:**

AGR 1000

### **Corequisites:**

CHM 1110

### **Meeting Dates and Times:**

Tuesday & Thursday 8:00 – 9:20

### **Course Delivery:**

In person JJC 174

### **TEXT AND MATERIALS/SUPPLIES:**

Soil Fertility and Fertilizers, 8th edition

John L. Havlin, Samuel L. Tisdale, Werner L. Nelson, James D. Beaton

ISBN-13: 9780137593392

Available as part of a multi title package for \$59.96 for four-month license at

<https://www.pearson.com/store/en-us/pearsonplus/p/9780137593392.html>

### **STUDENT LEARNING OUTCOMES:**

- Determine soil chemistry, physical and biologic characteristics using a variety of methods.
- Describe soil and water conservation practices as they apply to agronomic crop production.
- Given prescriptive data set, determine appropriate soil and water conservation practices as they apply to agronomic crop production for a given situation.
- Select soil residue practices given goals and data on the current situation.
- Determine water and solute movement in soil.
- Plan irrigation and drainage of crop land given soil characteristics.

## SCHEDULE OF INSTRUCTIONAL ACTIVITIES:

### Introduction and Course Outline

Weekly Agenda of Activities			
1		T	Introduction World Fertilizer Use
1		R	Essential Nutrients and Plant Functions
2		T	Soil pH
2		R	Soil Cation Exchange Capacity
3		T	Lime Recommendations and Lime Sources
3		R	Carbon Cycle Soil Organisms
4		T	Allen County Agriculture Outlook
4		R	Nitrogen
5		T	Nitrogen Forms and Application
5		R	Nitrogen Forms and Application
6		T	Phosphorus
6		R	Phosphorus
7		T	Potassium
7		R	Potassium
8		T	Exam 1
8		R	Tri-State Guidelines P and K calculations
		T	Spring Break
		R	Spring Break
9		T	Tri-State Guidelines P and K calculations
9		R	Calcium, Magnesium and Sulfur
10		T	Calcium, Magnesium and Sulfur
10		R	Micro Nutrients
11		T	Micro Nutrients
11		R	Nutrient Management Strategies
12		T	Environmental Aspects of Nutrient Management
12		R	Voluntary Nutrient Management Plan
13		T	Wetland Restoration
13		R	Spreader calibration & Organic nutrient sources
14		T	Managing soils for agriculture and as a natural res
14		R	Edge of Field Study, Erosion Control and Field Run
15		T	
15		R	Mineral Soils and Nutrient Management
16		T	Final

## **LABORATORIES, CLINICALS, FIELD WORK/ SPECIAL REQUIREMENTS:**

### **TESTING AND EVALUATION:**

Assignments,  
Demonstrations  
Problems  
Lab Reports  
Quizzes  
Exams

### **Grading Scale:**

A	93-100
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	60-66.9
E	0-59

### **Course Scoring:**

Quizzes	20
Homework/Assignments	40
Exams	40
Total	100

Assignments: Will be scheduled as appropriate and due one week after assigned.

### **INSTRUCTOR EXPECTATIONS:**

#### **Attendance/Participation:**

Regular attendance is needed to gain an understanding of the course's content and to satisfactorily demonstrate required competencies. Lack of attendance will negatively impact the earned grade and if flagrant, could result in a grade of "E" which may negatively impact a student's financial aid eligibility. (See Federal Student Aid Handbook for further information.)

Weekly attendance is expected prior communication of missing class is appreciated.

#### **Makeup Policy:**

All course work shall be managed so that progress toward completion is continuous. Continuous is defined as progress made weekly.

## **PARTICIPATION**

### **Attendance:**

Regular attendance is important to understand course content and perform required competencies. Absences, late arrivals, and early departures will negatively impact your grade and may result in a grade of “E” which may harm your Financial Aid eligibility. Please ensure that you understand the attendance policy for each course and follow the instructor’s guidelines for communicating about unavoidable absences and making up course work, if permissible.

### **E-mail:**

You are responsible for checking your College email frequently for college and course-related communications. RSC recommends checking email daily in recognition that certain communications may be time-sensitive. Please use proper etiquette when submitting emails to College personnel: a positive tone, correct spelling and grammar, and verify the intended recipient’s title and address before sending the email. These details will expedite communication.

### **Incomplete:**

The grade of incomplete (“I”) in a course is a temporary grade, reflecting that while your work in the course is qualitatively satisfactory, but for some extenuating circumstances, a small fraction cannot be completed by the scheduled end date. Before an “I” can be awarded, there must be a plan in place, verified by signatures or emails by both you and your instructor, outlining exactly what work must be accomplished and a schedule for doing so. The student must complete and submit the coursework no later than the sixth Friday following the start of the semester or term subsequent to the one in which the “I” was received. Failure to adhere to this plan will result in calculating the course grade with 0s for all remaining assignments. Until the “I” is resolved, the credit hours will not be counted or considered for any purpose. Your financial aid and academic standing may be negatively impacted. For more information see the College Catalog “Grading System” and “Registration.”

In short, taking an incomplete should be avoided. However, if it becomes impossible for you to complete a course, please contact your instructor and Financial Aid advisor immediately.

### **Withdrawal:**

You are responsible to officially drop/withdrawal from a course when you decide to no longer attend class. Without an official drop/withdrawal from the Office of Advising and Counseling, the institution has the right to identify a date of drop/withdraw. This may result in receiving an “E” in all classes and being required to pay all assessed fees and tuition, even though you have actually left the College. Any/all of these may have a negative impact upon future Financial Aid eligibility. Please contact your Academic and Financial Aid Advisors for assistance.

## STUDENT CODE OF CONDUCT

### Academic Integrity:

Attempting to deceive, defraud, or use dishonesty for one's own gain will not be tolerated. Dishonesty in any form may result in a grade of "zero" for the activity, whether in providing or utilizing materials inappropriately. Additionally, individual programs may impose greater sanctions. This includes – but is not limited to – plagiarism, attempting to pass off someone else's work as one's own; submitting substantially the same work, using materials created for one course in another without the instructor's knowledge and permission; securing/providing answers to a test apart from the instructor's directions, etc. Students are encouraged to review the Student Code of Student Conduct on the college website (<http://www.rhodesstate.edu/currentstudents>) for additional information.

### Student Support:

Resources	Location	Phone	Email/Website
Accommodative Services	TL 132	419-995-8476	<a href="mailto:TestCenter@rhodesstate.edu">TestCenter@rhodesstate.edu</a>
Advising	PS 218	419-995-8400	<a href="mailto:Advising@rhodesstate.edu">Advising@rhodesstate.edu</a>
Campus Security	TL 140	419-995-8499 (Non-emergency)	<a href="mailto:mathews.m@rhodesstate.edu">mathews.m@rhodesstate.edu</a>
Career Development	JJC 179J	419-995-8352	<a href="mailto:CareerDevelopment@rhodesstate.edu">CareerDevelopment@rhodesstate.edu</a>
Computer Help Desk		419-995-8069	<a href="mailto:HelpDesk@rhodesstate.edu">HelpDesk@rhodesstate.edu</a>
Counseling Services	Email, Text, or Call	Call: 855-695-2817 Text: "Hello" to 61295	StudentLifeServices.com (password: rhodes)
Financial Aid	PS 148	419-995-8802	<a href="mailto:Finaid@rhodesstate.edu">Finaid@rhodesstate.edu</a>
Internships & Experiential Learning	JJC 179H	419-995-8053	<a href="mailto:Internships@RhodesState.edu">Internships@RhodesState.edu</a>
Library	CK150	419-995-8401	<a href="https://osu.libguides.com/?group_id=1788">https://osu.libguides.com/?group_id=1788</a>
OSU Police	GA 134	567-242-7400 (Non-emergency)	<a href="https://lima.osu.edu/faculty-and-staff/administration/security/">https://lima.osu.edu/faculty-and-staff/administration/security/</a>
Testing Center	TL132	419-995-8476	<a href="mailto:TestCenter@rhodesstate.edu">TestCenter@rhodesstate.edu</a>
Tutoring	SCI 240	419-995-8039	<a href="mailto:academicsuccesscenter@rhodesstate.edu">academicsuccesscenter@rhodesstate.edu</a>

### ADA Reasonable Accommodations:

Accommodative Services supports all students with documented disabilities who are enrolled for credit. Students needing accommodations at Rhodes State should contact Accommodative Services in person in the Technical Education Laboratory building, Room 132 (TL 132), via email at [AccommodativeService@RhodesState.edu](mailto:AccommodativeService@RhodesState.edu), or via telephone at 419-995-8009. Students must meet with Accommodative Services, receive an Accommodations Letter, and present the letter to the instructor **before accommodations take effect. Accommodations are not retroactive.**

### Comprehensive Early Alert Program (CEAP):

Rhodes State employs a Comprehensive Early Alert Program (CEAP) to identify and provide just-in-time support for students who are having academic difficulties. It is a process by which your instructor will "alert" you and an advisor or success coach when you are absent, frequently late or leaving early, have missed assignments, or earned low test scores. CEAP enhances existing services, such as advising, coaching, and tutoring, which increase student success. Please contact your instructor, advisor, or success coach to learn about what assistance might be

available.

## **CAMPUS COMMUNICATION**

### **College Closures:**

Please sign up for **Rhodes Alert** which can be found on the RSC website. Rhodes Alert was created to provide students with Emergency Notifications in the event of Weather Emergencies, Weather Closures, and Campus Security Threats. These notifications will be delivered via phone, email, and text message. The local TV and radio stations also post information about College closures. When referring to a media outlet, please remember to look specifically for RSC as other institutions may follow different protocols for weather cancellations.

### **Weather Delays and Cancellations:**

In the event that weather forces a delay to the start of the academic day, the College will announce when classes will begin. Classes starting and ending prior to the announced start time are cancelled. If the class starts before the announced start time but still has more than 30 minutes of class remaining after the start time, that class will begin at the announced specific time and end at its normal time. This same 30-minute rule will be used in the event of an early closure of the College. The portion of the class which was scheduled prior to the announced closure time would be cancelled

Because travel to clinical/practicum experiences may begin at an early hour, program leadership may delay the start to enable the College to assess weather conditions and allow for the College's communication process to occur. Always, please exercise your best judgment in determining whether to attend classes or activities sanctioned by RSC. Remember that you are accountable for any material missed during an absence without an official delay or announced cancellation.

### **Emergency Procedures:**

**Students are responsible for following appropriate campus emergency procedures.** Students are encouraged to review the Building Emergency Action Plan on the college website: (<http://www.rhodesstate.edu/About%20Rhodes/College%20Offices%20and%20Departments/Security-Safety/Emergency%20Information.aspx>)

**Rhodes State College is a tobacco-free campus.  
This includes all smoked, chewed, vaporized, and electronic forms.**