

Agronomy 378
Soil Fertility & Plant Nutrition
Fall 2017

Instructor: Dr. Joel Gruver

Phone: (309) 298-1215

Email: J-Gruver@wiu.edu

Office: Knoblauch Hall 302

Office hours: M, W 10-11, Th 10-12

Class meeting time and location: M, W, F 11-11:50 am in Knoblauch 306

Text: No text is required but readings will be assigned most weeks from a variety of mostly on-line sources

Course objectives:

This course will familiarize students with current soil fertility concepts and their practical application. The following concepts will be emphasized:

- 1) The critical role of healthy roots in supplying crops with nutrients
- 2) The impact of agricultural practices on nutrient reserves, cycles and flows
- 3) The impact of macro and micro nutrients on crop performance
- 4) Methods of assessing the nutrient status of plant and soil systems and strategies for using this information to guide management decisions

Grades:

<u>Activity</u>		<u>Grading scale</u>			
Reading Qs/problem sets	25 %				
Quizzes	25 %	A	> 93	C+	77-80
Interview projects	20%	A-	90-93	C	73-77
Nutrient balance project	10%	B+	87-90	C-	70-73
Attendance	10%	B	83-87	D	60-70
Final Exam	10 %	B-	80-83	F	< 60

Education majors must receive a C or better!

Schedule:

<u>Week</u>	<u>Class meetings</u>	<u>Topic</u>
1	8/21, 8/23, 8/25	History of soil fertility
2	8/28, 8/30, 9/1	Roots: the hidden half of agriculture
3	--- 9/6, 9/8	Nutrient reserves, cycles and flows
4	9/11, 9/13, 9/15	Soil acidity and alkalinity
5	9/18, 9/20, 9/22	Nitrogen in plant and soil systems
6	9/25, 9/27, 9/29	Phosphorus in plant and soil systems
7	10/2, 10/4, 10/6	Potassium in plant and soil systems
8	10/9, 10/11, 10/13	Sulfur in plant and soil systems
9	10/16, 10/18, 10/20	Calcium and Magnesium in plant and soil systems
10	10/23, 10/25, 10/27	Micronutrients in plant and soil systems
11	10/30, 11/1, 11/3	Soil and plant testing – part I
12	11/6, 11/8, 11/10	Soil and plant testing – part II
13	11/13, 11/15, 11/17	Nutrient sources
14	-----	Thanksgiving Break!!!
15	11/27, 11/29, 12/1	Nutrient application methods
15	12/4, 12/6 12/8	Nutrient management
16	12/13	Take home final is due on Wednesday @ 10 am!

EXPECTATIONS OF STUDENTS

Participation and timeliness: You are expected to attend class regularly, actively participate, and submit assignments on time. **ATTENDANCE WILL BE MONITORED.**

Academic integrity: NO CHEATING, PLAGIARISM, OR OTHER VIOLATIONS OF THE WIU ACADEMIC INTEGRITY POLICY WILL BE TOLERATED.

Please talk to me if you have any questions about the WIU academic integrity policy. All suspected violations of the WIU academic integrity policy will be addressed promptly and individually.

Student rights and responsibilities: Detailed information regarding student rights and responsibilities can be found at <http://www.wiu.edu/provost/student/>. You are responsible for being familiar with your rights and responsibilities.

Special accommodations: If you have special needs, please let me know and/or contact Disability Support Services at 298-2512.