

## AGRN473: Nutrient Management - Spring 2020

**Instructor:** Dr. Joel Gruver

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**Office Hours:** MW 9-10 and 11-12

**Class meeting location and time:** Knoblauch Hall 305, MWF10-10:50 pm

**Text:** No text – readings from a wide variety of sources will be assigned

### **Course Description:**

This course will begin with a review of foundational nutrient management concepts followed by an exploration of the diverse stakeholders in nutrient management. Next, we will investigate the IL Nutrient Loss Reduction Strategy and other similar strategies. The rest of the course will explore the people and practices needed to improve nutrient management e.g., 4R strategies (right source, rate, placement & timing) for fertilizers, manures and biosolids within the context of conservation cropping systems.

### **Course Objectives:**

At the end of the course, students should be able to:

- Explain the origin and major goals of the INLRS and similar strategies
- Understand roles of diverse stakeholders in improving nutrient management
- Apply 4R concepts to conventional fertilizer and organic nutrient sources
- Diagnose nutrient management opportunities and challenges in conservation cropping systems
- Design on-farm research to improve nutrient management

### **Grade Determination:**

Take-home final	20%	A	93 - 100	C	73-76
Western Online assignments	20%	A-	90 - 92	C-	70-72
Interview Archive assignments	20%	B+	87-89	D+	67-69
Take-home mid-term	15%	B	83-86	D	63-66
Interview project	15 %	B-	80-82	D-	60-62
Attendance	10 %	C+	77-79	F <	60

Reading questions and/or quantitative problems will be assigned most weeks. Answers should be submitted electronically using Western On-line unless otherwise specified.

\*All\* steps used to solve quantitative problems must be clearly shown. Students will interview a nutrient management stakeholder and submit an interview transcript and commentary. Students will also share a short oral presentation about their interview candidate.

### **Academic honesty:**

The WIU academic integrity policy will be strictly followed in this class.

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

**Lecture schedule:**

<b>Week #</b>	<b>Mon</b>	<b>Wed</b>	<b>Fri</b>	<b>Topic</b>
1	1/13	1/15	1/17	Foundational concepts
2	-	1/22	1/24	Who are the stakeholders?
3	1/27	1/29	1/31	Understanding the fertilizer industry
4	2/3	2/5	2/7	Understanding the fertilizer industry
5	2/10	-	2/14	IL Nutrient Loss Reduction Strategy
6	2/17	2/19	2/21	Complementary initiatives in IL
7	2/24	2/26	2/28	National/international initiatives
8	3/2	3/4	3/6	Stakeholder profile presentations
9	---	---	---	<b>Spring Break</b>
10	3/16	3/18	3/20	Standard diagnostic methods
11	3/23	3/25	3/27	Innovative diagnostic methods
12	3/30	4/1	4/3	Standard sources & placement
13	4/6	4/8	4/10	Innovative sources & placement
14	4/13	4/15	4/17	Manure management
15	4/20	4/22	4/24	Biosolids management
16	4/27	4/29	5/1	Cropping system strategies
17	5/4	5/6	5/8	On-farm research wrap-up
18	Monday 5/11 @ 10 am			<b>FINAL EXAM</b>

**Attendance and deadlines:**

Attendance will be monitored (mostly using ACADLY). Students who miss 5 or fewer class sessions, will receive an attendance grade of 100%. Each additional absence will result in a reduction of your attendance grade by 20%. If you miss 10 or more classes, your attendance grade will be 0%. Assignments submitted after designated due dates will only receive partial credit unless an extension was granted by the instructor.

**Student Rights and Responsibilities:**

Detailed information regarding student rights and responsibilities can be found at <http://www.wiu.edu/provost/student/> . It is your responsibility to be familiar with the posted information.

**Special Accommodations:**

In accordance with University policy and the Americans with Disabilities Act (ADA), special accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to my attention, as I am not legally permitted to inquire about the needs of specific students. Students who may require special assistance in emergency evacuations (i.e. fire, tornado, etc.) should let me know the most appropriate procedures to follow in such an emergency. Contact Disability Support Services at 298-2512 for additional services.

**Attention Education Majors:**

The changes within the Illinois State Teaching License requirements, students are required to receive a grade of a "C-" or better in this course in order to meet state requirements. With the university's +/- grading system, receiving a grade below a "C-" will require you to retake this course or find a substitute course to meet School of Agriculture graduation requirements.