3/6/2025	DATE	AGR	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☑	ELECTIVE COURSE	☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	AGR-051		TITLE: *(30 Characters Max)*			Soil Fertility					
SEM CR HRS:	2.5	Lecture:	2.5		Lab:	0.0	ICCB Lab:	0.0	ECH:	2.5	
Course Level:	☐ Gen Ed / IAI ☐ Baccalaureate /Non-IAI	☑ Career/Technical ☐ Dev Ed/ Not in Degree Audit			Clinical Practicum:	0.0	Work-based Learning:	0.0	WBL ECH:	0.0	
Course PCS & CIP:	12 - 01.0304		IAI Code:		N/A		Contact Hours (Minutes/Week)				
Repeatable (Y/N):	N	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:		Max:		16 Wks	125
										8 Wks	250
Prerequisites:	Recommend AGR 050 or AGR 205										
Corequisites:	None										
Catalog Description: (40 Word Limit)	Enables those involved with soils and crops to make intelligent and efficient use of fertilizer materials available.										

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Historical overview—animal waste	2			
2	Plant needs—CEC	3.5			
3	Calcium (limestone) and pH	4.5			
4	Nitrogen	4.5			
5	Phosphorus	3.5			
6	Potassium	3.5			
7	Secondary nutrients	4.5			
8	Micronutrients	4.5			
9	Fertilizer recommendations	3.5			
10	Trends in fertilizer use, VRT and environmental factors	3.5			
	TOTAL	37.5	0	0	0

EVALUATION							
QUIZZES	☑	EXAMS	☑	ORAL PRES	☐	PAPERS	☐
LAB WORK	☐	PROJECTS	☐	COMP FINAL	☑	OTHER	☐

COURSE MATERIALS		
TITLE:	Soil Fertility Manual	
AUTHOR:	PPI	
PUBLISHER:	Potash & Phosphate Institute	
VOLUME/EDITION/URL:	19th printing	
COPYRIGHT DATE:	2003	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Historical overview – animal waste	2	1. Discuss history of soil fertility.
Plant needs - CEC	3.5	1. Report essentiality of elements in plant nutrition.
Calcium (limestone) and pH	4.5	1. Estimate limestone requirements in production ag fields.
Nitrogen	4.5	1. Appraise various N fertilizer sources.
Phosphorus	3.5	1. Debate various P fertilizer sources.
Potassium	3.5	1. Compare various K fertilizer sources.
Secondary nutrients	4.5	1. Analyze sulfur, calcium and magnesium sources and general relationships to the crop.
Micronutrients	4.5	1. Summarize micronutrients needed for crop growth.
Fertilizer recommendations	3.5	1. Develop fertilizer recommendations based on soil test results.

Trends in fertilizer use, VRT and environmental factors	3.5	1. Evaluate nutrient-water interactions, prescription application of fertilizers, MEY, BMP and VRT.
	37.5	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Critique N Sources	Critique N sources and the risks associated with their use.
Course Outcome 2	Compare Fertilizers	Compare various fertilizers.
Course Outcome 3	Nutrient Mgmt Plan	Produce a nutrient management plan.
Primary Laker Learning Competency	Scientific Literacy: Students apply the scientific process to real-life situations.	
Secondary Laker Learning Competency	Quantitative Literacy: Students analyze data and mathematical patterns in real-life situations.	

**Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency.*