9/9/2024	DATE	AGR	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☐	ELECTIVE COURSE	☐	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	AGR-040	TITLE: *(30 Characters Max)*	Agricultural Mathematics							
SEM CR HRS:	3	Lecture:	3	Lab:	0				ECH:	3
Course Level:	☐ Gen Ed / IAI ☐ Baccalaureate /Non-IAI	☑ Career/Technical ☐ Dev Ed/ Not in Degree Audit		Clinical Practicum:	0	Work-based Learning:	0		WBL ECH:	0
COURSE PCS #	12 - 27.0301	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	150	8 Wks	300	
Prerequisites:	None									
Corequisites:	None									
Catalog Description: (40 Word Limit)	Applications of mathematics as it applies to the operation of grain and livestock farms, agriculture business and agriculture mechanization.									

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Mixing Chemicals	2			
2	Calibration of Chemicals and Fertilizers	2			
3	Calibration of Planters	2			
4	Percent and Percentages	4			
5	Ratios and Direct Proportions	4			
6	Special Formulas	5			
7	Measures and Weights	4			
8	Solving Stated Problems	22			
	TOTAL	45	0	0	0

EVALUATION

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

COURSE MATERIALS

TITLE:	Mathematical Applications in Agriculture	
AUTHOR:	Mitchell	
PUBLISHER:	Delmar	
VOLUME/EDITION/URL:	2nd Edition	
COPYRIGHT DATE:	2012	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Mixing Chemicals	2	1. Calculate the proper amounts of chemical and water to mix.
Calibration of Chemicals and Fertilizers	2	1. Assess amounts being applied.
Calibration of Planters	2	1. Inspect accuracy of seed planting.
Percent and Percentages	4	1. Review conversion of decimals and fractions to percentages to aid in problem solving. 2. Figure percentage increase and decrease accurately.
Ratios and Direct Proportions	4	1. Review how direct proportions can aid in problem solving. 2. Figure percentage increase and decrease accurately.
Special Formulas	5	1. Review formulas for determining yields of grain, conversions of weight to bushels and gallons, etc.
Measures and Weights	4	1. Record test weights for farm commodities such as feed grains, oil seeds and conversions of weights into dollars.
Solving Stated Problems	22	1. Apply the above mentioned segments and reason through a problem to find solutions to farming mathematical situations.
	45	

Outcomes*	At the successful completion of this course, students will be able to:
Course Outcome	Calculate interest and principal payments on agricultural loans
Course Outcome	Convert units of measure within the English and metric systems
Course Outcome	Calculate fertilizer quantities required to meet nutrient targets in both turf grass and corn/soybean settings
Course Outcome	Calculate profitability through Field Analysis Assignment
Primary Laker Learning Competency	Quantitative Literacy: Students utilize mathematical knowledge to test claims and hypotheses, perform data analysis and recognize patterns in real-life situations.
Secondary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions and judgments.

**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. Limit to 3-5.*