2/17/2025	DATE		AGR	DIVISION
☑	REQUIRED COURSE		☐	NEW COURSE
☑	ELECTIVE COURSE		☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	AGR-080		TITLE: *(30 Characters Max)*			Ignition & Electrical Systems					
SEM CR HRS:	3.5	Lecture:	2.0		Lab:	3.0	ICCB Lab:	3.0	ECH:	5.0	
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:	12.010201		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	250	8 Wks	500
Prerequisites:	None										
Corequisites:	None										
Catalog Description: (40 Word Limit)	Designed to develop a working knowledge of the concepts and components of farm power and machinery electrical systems. Discusses basic electrical principles of electromagnetism and use of electrical test meters including the repair of ignition and charging systems.										

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Introduction to electricity	5	5		
2	Testing equipment	4	5		
3	Storage batteries	3	5		
4	Charging circuits	3	7		
5	Starting circuits	3	7		
6	Lighting circuits	4	8		
7	Diagnosis and testing	8	8		
	TOTAL	30	45	0	0

EVALUATION

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

COURSE MATERIALS

TITLE:	Electrical Systems	
AUTHOR:	John Deere Service Publications	
PUBLISHER:	Deere and Company	
VOLUME/EDITION/URL:	9th Edition	
COPYRIGHT DATE:	2012	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Introduction to electricity	10	1. Define basic concepts and laws of electricity as they pertain to electrical systems.
Testing equipment	9	1. Demonstrate the ability to properly use electrical test equipment and interpret the results.
Storage batteries	8	1. Discuss the theory of operation of batteries and demonstrate the ability to diagnose and test batteries.
Charging circuits	10	1. Explain the operation of charging systems and demonstrate how to diagnose and repair both AC and DC charging systems.
Starting circuits	10	1. Explain the operation of starting circuits and their components and the proper procedure diagnosis and repair of circuits.

Lighting circuits	12	1. Explain the operation of lighting circuits and demonstrate the ability to diagnose and repair.
Diagnosis and testing	16	1. Demonstrate the ability to read wiring schematics and illustrate the diagnosis and testing of multiple schematics and electrical systems.
	75	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Personal Safety	Demonstrate personal safety practices to be used while servicing electrical systems.
Course Outcome 2	Safe Dig Multimeter	Perform safe and correct operation of a digital multimeter.
Course Outcome 3	Electr Principles	Analyze the basic principles of electricity, including electrical flow, electromagnetic induction and Ohm's law.
Course Outcome 4	Series Circ Elect	Analyze basic series circuits and electrical pressure and flow in these circuits.
Course Outcome 5	Parallel Circ Elect	Analyze basic parallel circuits and electrical pressure and flow in these circuits.
Primary Laker Learning Competency	Creative Thinking & Problem Solving: Students think creatively to solve problems.	
Secondary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.	

**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.*