6/21/2023 DATE
☑ REQUIRED COURSE
☐ ELECTIVE COURSE

Agriculture DIVISION
☐ NEW COURSE
☐ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	JDA-082			**TITLE:** *(30 Characters Max)*			John Deere Advanced Electrical/Electronics Systems						
SEM CR HRS:	3.5	**Lecture:**		1.5		**Lab:**	4					**ECH:**	5.5
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 - 01. 0201			**IAI Code**						**Contact Hours (Minutes Per Week)**			
Repeatable (Y/N):	N	**Pass/Fail (Y/N):**	N	**Variable Credit (Y/N):**	N	**Min:**		**Max:**		**16 Wks**	275	**8 Wks**	550
Prerequisites:	JDA-080 John Deere Electrical Systems												
Catalog Description: (40 Word Limit)	Designed to develop and strengthen the student's knowledge in electrical/electronic systems. Upon completion the student will be able to properly use service equipment to diagnose electronically controlled components and monitor systems used on tractors, planting, and harvesting equipment.												

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Operator Warning Systems	3	12		
2	Electro/Hydraulic Controls	5	8		
3	Planting Equipment Monitors	3	8		
4	Baler Monitors	1	2		
5	Fuel Injection Controls	1	6		
6	Electronic Control Systems of Transmissions	2	12		
7	Harvest Equipment Electrical/Electronic Systems	7.5	12		
	TOTAL	22.5	60	0	0

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

COURSE MATERIALS		
TITLE:	Electronic and Electrical Systems/F.O.S.	
AUTHOR:	Deere & Co. Service Publications	
PUBLISHER:	John Deere Publishing	
VOLUME/EDITION/URL:	9th Edition	
COPYRIGHT DATE:	2012	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Operator Warning Systems	15	1. Students will learn principles of operation of monitor systems. 2. Will provide necessary diagnostic, repair, and maintenance skills related to monitor systems.
Electro/Hydraulic Controls	13	1. Students will acquire information on electronic components used in electro/ hydraulic systems of tractors, combines, and sprayers.
Planting Equipment Monitors	11	1. Students will gain knowledge of how monitors operate. 2. Will enable the students to perform diagnosis and repair of the monitor system.
Baler Monitors	3	1. Students will gain the ability to diagnose bale size and density monitors.
Fuel Injection Controls	7	1. Students will gain a basic understanding of electronic governing systems. 2. Will enable the students to diagnose the system so proper repair can be completed.

Electronic Control System of Transmissions	14	1. Students will better understand the relationship between electrical systems and transmission controls. 2. To give the necessary skills to diagnose and repair electronically controlled transmission systems.
Harvest Equipment Monitors	19.5	1. Students will gain knowledge about the operation of harvest monitoring systems. 2. To provide the student with knowledge and skills in diagnosis and repair of these systems.
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	82.5	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
Perform personal safety practices to be used while servicing John Deere electrical systems.	
Perform proper use and diagnostic procedures that are performed with a digital multimeter.	
Demonstrate knowledge of starting circuits used on John Deere equipment.	
Demonstrate knowledge of charging circuits used on John Deere equipment.	
Demonstrate knowledge of machine monitoring systems used on John Deere equipment.	