

10/11/2024

DATE

TEC DIVISION



REQUIRED COURSE



NEW COURSE



ELECTIVE COURSE



REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	AUT-059		TITLE: (30 Characters Max)		Electrical Systems II						
SEM CR HRS:	3	Lecture:	2	Lab:	2			ECH:	4		
Course Level:	<input type="checkbox"/> Gen Ed / IAI <input type="checkbox"/> Baccalaureate /Non-IAI		<input checked="" type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		Clinical Practicum:	0	Work-based Learning:	0	WBL ECH:	0	
COURSE PCS #	12 - 47.0604		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	200	8 Wks	400
Prerequisites:	AUT-048 and AUT- 051										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course is a study of the diagnosis and repair of advanced electrical systems. This includes lighting systems, driver information and navigation systems, security and anti-theft systems, airbag and pretension systems, body electrical accessories, advanced driver assist systems (ADAS) and audio systems operation and diagnosis.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Lighting and signaling circuits	4	4		
Driver information and navigation systems	4	4		
Security and anti-theft systems	4	4		
Airbag and pretension circuits	6	8		
Body electrical accessories	4	4		
Advanced driver assist systems (ADAS)	4	4		
Audio system operation and diagnosis	4	4		
TOTAL	30	32	0	0

EVALUATION

QUIZZES <input checked="" type="checkbox"/>	EXAMS <input checked="" type="checkbox"/>	ORAL PRES <input type="checkbox"/>	PAPERS <input type="checkbox"/>
LAB WORK <input checked="" type="checkbox"/>	PROJECTS <input type="checkbox"/>	COMP FINAL <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>

COURSE MATERIALS

TITLE:	Automotive Electricity and Electronics
AUTHOR:	James D. Halderman
PUBLISHER:	Pearson
VOLUME/EDITION/URL:	Sixth Edition
COPYRIGHT DATE:	2021

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Lighting and signaling circuits	8	1. Explain the lighting systems used in an automobile, including brake lights, turn signals, running lights and interior lights. 2. Demonstrate diagnosis and service with the systems.
Driver information and navigation systems	8	1. Translate the dash warning lamps. 2. Explain the operation and service of the steering wheel controls, voice activation, maintenance indicators, heads-up displays, night vision, navigation system and backup cameras. 3. Demonstrate diagnostic procedures as directed.
Security and anti-theft systems	8	1. Explain the purpose, function and servicing of a security system. 2. Diagnose the system.
Airbag and pretension circuits	14	1. Explain the purpose and function of the airbag and pretension systems 2. Demonstrate the proper way to disable, service, and reactivate the airbag and pretension systems.
Body electrical accessories	8	1. Explain the operation and servicing of the body electrical accessories, including horns, wipers, cruise control, power windows and locks, sunroofs, moon roofs, power seats, cooled and heated seats and remote start. 2. Demonstrate diagnostic procedures as directed.

Advanced driver assist systems (ADAS)	8	1. Explain the purpose, function, and servicing of the advanced drivers assist systems. 2. Demonstrate diagnostic and calibrating procedures.
Audio system operation and diagnosis	8	1. Explain how the different radios, speakers, antennas and bluetooth systems operate. 2. Demonstrate diagnostic procedures as directed.
62		

Outcomes*		At the successful completion of this course, students will be able to:
Course Outcome	Assessing the need for servicing the lighting systems.	
Course Outcome	Displaying the correct translation of the dash warning lamps.	
Course Outcome	Executing the proper procedures for airbag and pretension services.	
Primary Laker Learning Competency	Information & Technology Literacy: Students not only identify when information is necessary, but they also find, evaluate and use that information effectively with the appropriate technological tools.	
Secondary Laker Learning Competency	Creative Thinking & Problem Solving: Students think creatively and solve problems by successfully combining knowledge in new ways.	

*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.