

10/27/2022

DATE

TEC

DIVISION



REQUIRED COURSE



NEW COURSE



ELECTIVE COURSE



REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	AUT-048		TITLE: (30 Characters Max)		Intro to Auto Maintenance & Light Repair						
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/Week)				
Repeatable (Y/N):	N	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:	Max:	16 Wks	200	8 Wks	400
Prerequisites:	None										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course is a study of chemicals, shop safety and operations, tools and equipment and careers in automotive technology. Techniques and tasks associated with electrical/electronics, heating and air conditioning, engine repair, brakes, steering and suspension and engine performance will be discussed and performed.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Automotive overview, history, careers and qualifications	2	2		
Facility, personal and environmental safe practices	4	2		
Fasteners and thread repair	2	2		
Hand tools, power tools and shop equipment	2	2		
Measuring systems and tools	2	2		
Service information, work orders, vehicle identification and emissions and maintenance procedures	8	8		
Engine repair and cooling system inspection/testing	2	2		
Electrical: battery inspection, testing and servicing	2	2		
Heating and air conditioning overview: EPA-approved refrigerant training (ASE)	2	1		
Electric vehicle overview	2	1		
Suspension and steering: wheels and tires	4	8		
TOTAL	32	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 Technology Principles, Diagnosis, and Service
AUTHOR:	James Halderman
PUBLISHER:	Pearson
VOLUME/EDITION/URL:	6th edition
COPYRIGHT DATE:	2020

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Automotive overview, history, careers and qualifications	4	1. Identify and summarize the available careers and their qualifications in the automotive repair industry.
Facility, personal and environmental safe practices	6	1. Execute safe operation of our shop's vehicle lifts. 2. Display their certificate in Automotive Repair Safety, Hazardous Waste Procedures and Vehicle Lift Operation from SP2.
Fasteners and thread repair	4	1. Identify various vehicle fasteners. 2. Inspect and repair threaded fasteners.
Hand tools, power tools and shop equipment	4	1. Identify and recognize the proper use of tools and equipment used in the automotive repair industry.
Measuring systems and tools	4	1. Perform precision mechanical measurements using a variety of measuring equipment.
Service information, work orders, vehicle identification and emissions and maintenance procedures	16	1. Complete a work order with necessary customer and vehicle information. 2. Research vehicle service information, vehicle service history and technical service bulletins. 3. Perform vehicle inspections and maintenance.

Engine repair and cooling system inspection/testing	4	1. Inspect coolant system for proper levels and conditions. 2. Perform cooling system pressure and dye test to identify leaks.
Electrical: battery inspection, testing and servicing	4	1. Execute a slow/fast battery charge, jump start a vehicle. 2. Execute a capacity test on a vehicle battery. 3. Replace a battery while identifying the components that will lose their keep alive memory.
Heating and air conditioning overview: EPA-approved refrigerant training (ASE)	3	1. Complete the necessary training to receive an EPA/NHTSA approved certificate allowing them to buy automotive air conditioning refrigerant and legally repair vehicle A/C systems as a professional technician.
Electric vehicle overview	3	1. Execute the procedure that disables the high voltage system using the emergency disconnect. 2. Express the operational characteristics of an electric/hybrid vehicle drive train.
Suspension and steering: wheels and tires	12	1. Execute tire and wheel maintenance, including wheel lug nut torque, mounting/dismounting tires, balancing wheel and tire assembly, and repairing a tire using an internal patch/patch plug.
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Outcomes*	At the successful completion of this course, students will be able to:
Course Outcome	Execute the safe use of the tools and equipment associated with the automotive repair industry.
Course Outcome	Display their SP2 certification in automotive shop safety, hazardous chemicals/waist procedures and vehicle lift safety.
Course Outcome	Display their certification in refrigerant handling by a federally approved organization.
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.