

2/27/2023 DATE
☒ REQUIRED COURSE
☐ ELECTIVE COURSE

DOC DIVISION
☐ NEW COURSE
☒ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	WEL-056		TITLE: (30 Characters Max)		Metal Cutting and Fabrication						
SEM CR HRS:	2	Lecture:	1		Lab:	2			ECH:	3	
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 #	12.480508		IAI Code				Contact Hours (Minutes/Week)				
Repeatable (Y/N):	Y	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)	This course is designed to provide an understanding of metal cutting and fabricating processes and weld joint design.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Equipment and Safety	1	2		
Manual Oxy-Fuel Cutting	2	4		
Guided Oxy-Fuel Cutting	1	2		
Plasma Arc Cutting	2	4		
Carbon Arc Cutting	1	2		
Sheet Metal Layout	1	2		
Shearing Metals	1	1		
Bending and Shaping Metals	1	2		
Grinding and Finishing Metals	1	2		
Weld Joint Design	1	2		
Laser, Waterjet and Other processes	2	4		
Weldment Assembly	1	3		
TOTAL	15	30	0	0

EVALUTION			
QUIZZES <input 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:	Modern Metalworking
AUTHOR:	John R. Walker
PUBLISHER:	Goodheart-Wilcox Company Inc.
VOLUME/EDITION/URL:	9th
COPYRIGHT DATE:	2004

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Equipment and Safety	3	Discuss safe handling of cutting equipment and identify components.
Manual Oxy-Fuel Cutting	6	Demonstrate proper operation of a manual cutting torch and be able to properly cut carbon steel.
Guided Oxy-Fuel Cutting	3	Discuss the operation of flat and pipe track cutters.
Plasma Arc Cutting	6	Demonstrate proper use of a plasma arc cutter to cut steel, stainless steel and aluminum.
Carbon Arc Cutting	3	Demonstrate proper use of a carbon arc for cutting, gouging and weld removal.
Sheet Metal Layout	3	Illustrate transfer of shapes from a blueprint to metal.
Shearing Metals	2	Demonstrate proper use of a metal shear.
Bending and Shaping Metals	3	Demonstrate bending and shaping metals using cold and heat processes.
Grinding and Finishing Metals	3	Demonstrate proper use of grinders and sanders for finishing.

Weld Joint Design	3	Discuss types of weld joints and their applications.
Laser, Waterjet and Other processes	6	Describe various modern metal cutting processes used in industry.
Weldment Assembly	4	Complete a welding project from start to finish.
	45	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	Demonstrate proper operation of a manual cutting torch to properly cut carbon steel.
	Demonstrate proper use of a metal shear.
	Demonstrate proper use of grinders and sanders.

* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.