



Republic of the Philippines
DEPARTMENT OF EDUCATION



K to 12 BASIC EDUCATION CURRICULUM

TECHNOLOGY AND LIVELIHOOD EDUCATION

CURRICULUM GUIDE

Exploratory Course on

SHIELDED METAL ARC WELDING

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – SHIELDED METAL ARC WELDING
(Exploratory)**

Curriculum Guide for the Exploratory Course on SHIELDED METAL ARC WELDING

For you to get a complete picture of the complete TLE exploratory course on Shielded Metal Arc Welding, you are hereby provided with the Curriculum Guide on Shielded Metal Arc Welding.

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: USE BASIC HAND TOOLS AND EQUIPMENT					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Hand tools and their uses • Defective and non-defective hand tools 	<ol style="list-style-type: none"> 1. Hand tools selected are appropriate to the requirements of the task. 2. Unsafe or defective tools are identified and marked for repair according to procedure. 	LO1. Select and classify hand tools and equipment		<ul style="list-style-type: none"> • Written exam • Performance test 	6 hours
<ul style="list-style-type: none"> • Performing tasks <ul style="list-style-type: none"> ○ Adjusting ○ Dismantling ○ Assembling ○ Finishing of item or components • Procedure on using different hand tools and equipment 	<ol style="list-style-type: none"> 1. Task is performed in accordance with company or industry safety procedure. 	LO2. Use hand tools and equipment	<ol style="list-style-type: none"> 1. Students demonstration on the proper use and care of tools 	<ul style="list-style-type: none"> • Written Exam 	
<ul style="list-style-type: none"> • Routine maintenance <ul style="list-style-type: none"> ○ Lubricating ○ Tightening ○ Repairing simple tool ○ Hand sharpening 	<ol style="list-style-type: none"> 1. Routine maintenance of hand tools is undertaken according to standard operating procedures, principles and techniques. 2. Hand tools are stored in 	LO3. Maintain hand tools.		<ul style="list-style-type: none"> • Written Exam 	

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<ul style="list-style-type: none"> ○ Cleaning ● Proper storage of hand tools equipment 	designated location in accordance with manufacturer’s instruction/standard operating procedure.				
LESSON 2: PERFORM MENSURATION AND CALCULATION					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> ● Fundamental Operations <ul style="list-style-type: none"> ○ Subtraction ○ Addition ○ Multiplication ○ Division 	<ol style="list-style-type: none"> 1. Simple calculations involving whole numbers, mixed numbers, fraction and decimal are performed using the four fundamental operations. 	LO1. Perform four fundamental operations.	<ol style="list-style-type: none"> 1. Computation involving the four fundamental operations (2-3 digits) 	<ul style="list-style-type: none"> ● Written/oral ● Performance test 	
<ul style="list-style-type: none"> ● Conversion of English to metric (vice versa) <ul style="list-style-type: none"> ○ English and metric system of measurements ● Measurement Systems ● Unit conversion 	<ol style="list-style-type: none"> 1. Units are converted to the required figure using the given formulae. 2. English measurements are converted to metric measurements according to procedure. 	LO2. Convert English Unit of measurement to Metric System		<ul style="list-style-type: none"> ● Written Exam 	
<ul style="list-style-type: none"> ● Ratio and proportion ● Area and volume 	<ol style="list-style-type: none"> 1. Percentages are computed using appropriate formula. 2. Precise and accurate formulas for computing area needed in metal trade are used. 	LO3. Perform basic ration and proportion area and volume calculations		<ul style="list-style-type: none"> ● Written Exam 	

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LESSON 3: APPLY SAFETY PRACTICES					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Identifying hazard to be avoided in welding safety signs and symbols types of hazards occupational safety and health standards 	<ol style="list-style-type: none"> Hazards are identified correctly in accordance with OHS(occupational health and safety) procedures. Safety signs and symbols are identified and adhered to in accordance with workplace safety procedure. 	LO1. Identify hazardous area.		<ul style="list-style-type: none"> Written exam 	6 hours
<ul style="list-style-type: none"> Using personal protective equipment (PPE) and its proper uses 	<ol style="list-style-type: none"> Personal protective clothing/equipment (PPE) as per job requirements are identified. Proper wearing of PPE is properly observed in accordance with workplace safety policies. 	LO2. Use personal protective clothing and devices.		<ul style="list-style-type: none"> Written exam 	
<ul style="list-style-type: none"> Pre-use inspection and checking procedures 	<ol style="list-style-type: none"> Safe handling of tools, equipment and materials is properly observed in accordance with OHS requirements and industry/ company policies. Safety label and tag of tools and equipment are strictly followed. 	LO3. Identify safety and health requirements and policy	<ol style="list-style-type: none"> Proper use and care of power tools 	<ul style="list-style-type: none"> Written exam 	

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LESSON 4: INTERPRETING PLANS AND DRAWINGS					
<i>Demonstrate understanding of/on:</i>					
<ul style="list-style-type: none"> Alphabet of lines 	1. Alphabet of lines are identified according to ISO(International Standard Organization).	LO1. Identify standard alphabet of lines.		<ul style="list-style-type: none"> Written Exam Performance test 	6 hours
<ul style="list-style-type: none"> Supplementary symbols 	1. Welding joints and symbols are interpreted according to drawing standard	LO2. Interpret standard drawing symbols.		<ul style="list-style-type: none"> Written Exam 	

“By three methods we may learn wisdom: First, by reflection, which is noblest; second, by imitation, which is easiest; and third by experience, which is the bitterest.”

- Confucius