

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CARPENTRY
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: PREPARING CONSTRUCTION MATERIALS AND TOOLS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Types and uses of construction materials • Kinds of carpentry tools • Description of materials and tools • Listing of materials as per company standards. 	<ol style="list-style-type: none"> 1. Tools and materials are identified as per job requirements. 2. Tools are classified according to their functions per job requirements. 3. Materials are classified according to their uses in a specific construction project. 4. Tools and materials are selected per job requirement. 	<p>LO1. Identify materials and tools applicable for a specific construction job.</p>	<ol style="list-style-type: none"> 1. Enumerating and describing the tools and materials used in carpentry works. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>6 hours</p>
<ul style="list-style-type: none"> • Different forms • Job order slip • Tools and materials requisition slip • Borrower's slip • Requisition procedures • Use of hand tools 	<ol style="list-style-type: none"> 1. Needed materials and tools are listed as per job requirement. 2. Materials and tools are requested according to the list prepared. 3. Requests are done as per company's standard operating procedures (SOP). 4. Materials and tools are substituted and provided for unavailable ones without sacrificing cost and quality of work. 	<p>LO2. Request appropriate materials and tools.</p>	<ol style="list-style-type: none"> 1. Fill up necessary forms as per job requirement. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3 hours</p>

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<ul style="list-style-type: none"> • Procedures in receiving tools and materials • Proper inspection of tools and materials received. • Proper handling of tools and materials. 	<ol style="list-style-type: none"> 1. Materials and tools as per quantity and specification based on requisition are received and inspected. 2. Tools and materials are checked for damages and manufacturing defects. 3. Materials and tools received are handled with appropriate safety devices. 4. Materials and tools are stored in aside to appropriate locations nearest the workplace. 	<p>LO3. Receive and inspect materials</p>	<ol style="list-style-type: none"> 1. Writing the possible defects and/or damages of materials and tools used in carpentry. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>2 hours</p>

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LESSON 2: MAINTAINING TOOLS AND EQUIPMENT					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Types of Tools and Equipment • Classification of functional and non-functional tools • Uses of Personal Protective Equipment (PPE). 	<ol style="list-style-type: none"> 1. Tools and equipment are identified according to classification/specification and job requirements. 2. Functional and non-functional tools and equipment are segregated and labeled according to classification. 3. Safety of tools and equipment are observed in accordance with manufacturer's instructions. 4. Conditions of PPE are checked in accordance with manufacturer's instructions. 	<p>LO1. Check condition of tools and equipment.</p>	<ol style="list-style-type: none"> 1. Performing the actual segregation of functional and non-functional tools and equipment. 	<ul style="list-style-type: none"> • Performance test • Written test 	<p>3 hours</p>
<ul style="list-style-type: none"> • Types and uses of lubricants • Types and uses of cleaning materials/solvent • Types and uses of measuring instruments and equipment. • Preventive maintenance techniques and procedures 	<ol style="list-style-type: none"> 1. Lubricants are identified according to types of equipment. 2. Tools and equipment are lubricated according to preventive maintenance schedule or manufacturer's specifications. 3. Measuring instruments are checked and calibrated in accordance with 	<p>LO2. Perform basic preventive maintenance.</p>	<ol style="list-style-type: none"> 1. Performing the proper selection and application of lubricants used for preventive maintenance. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>4 hours</p>

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<ul style="list-style-type: none"> OSHC workplace regulations 	manufacturer's instructions. 4. Tools are cleaned and lubricated according to standard procedures. 5. Defective equipment and tools are inspected and replaced according to manufacturer's specification. 6. Work place is cleaned and kept in safe state in line with OSHC regulations				
<ul style="list-style-type: none"> Inventory of tools and equipment Tools and equipment handling Tool safe-keeping/storage 	1. Inventory of tools, instruments, and equipment are conducted and recorded as per company practices. 2. Tools are inspected and replaced after use. 3. Tools and equipment are stored safely in accordance with manufacturer's specifications or company procedures.	LO3. Store tools and equipment.	1. Applying proper storing of tools.	<ul style="list-style-type: none"> Written test Performance test 	2 hours

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LESSON 3: PERFORM MENSURATION AND CALCULATION					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Measuring instruments and tools Proper handling of measuring instruments 	<ol style="list-style-type: none"> Measuring tools are selected/identified as per object to be measured or job requirements. Correct specifications are obtained from relevant sources. Measuring instruments are selected according to job requirements. Alternative measuring tools are used without sacrificing cost and quality of work. Measurements are obtained according to job requirements. 	<p>LO1. Select measuring instruments.</p>	<ol style="list-style-type: none"> Demonstrating the proper handling of measuring tools. 	<ul style="list-style-type: none"> Actual demonstration Direct observation Written test/questioning 	<p>2 hours</p>
<ul style="list-style-type: none"> Kinds of measurement Dimensions Ratio and proportion Conversion 	<ol style="list-style-type: none"> Accurate measurements are obtained according to job requirements. Work pieces are measured according to job requirements 	<p>LO2. Carry out measurement and calculations.</p>	<ol style="list-style-type: none"> Measuring lengths, width, and thickness of pieces of wood. 	<ul style="list-style-type: none"> Written Test Performance Test 	<p>4 hours</p>

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LESSON 4: INTERPRETING DRAWINGS AND PLANS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Drawing symbols and signs 	<ol style="list-style-type: none"> Signs, symbols, and data are identified according to job specifications. Signs, symbols, and data are determined according to classification or appropriateness in drawing. 	<p>LO1. Analyze signs, symbols, and data.</p>	<ol style="list-style-type: none"> Drawing and describing the different signs and symbols used in the project plans. 	<ul style="list-style-type: none"> Written test Performance test 	<p>4 hours</p>
<ul style="list-style-type: none"> Basic technical drawing Technical plans and schematic diagram 	<ol style="list-style-type: none"> Necessary tools, materials, and equipment are identified according to the plan. Components, assemblies or object are recognized as per job requirement. Dimensions and specifications are identified according to job requirements. 	<p>LO2. Interpret technical drawings and plans.</p>	<ol style="list-style-type: none"> Explaining the specific uses of lines in the drawing. 	<ul style="list-style-type: none"> Performance test Written test 	<p>2 hours</p>
<ul style="list-style-type: none"> Correct freehand sketching 	<ol style="list-style-type: none"> Correct freehand sketching is produced in accordance with the job requirements 	<p>LO3. Apply freehand sketching</p>	<ol style="list-style-type: none"> Demonstrating freehand sketching 	<ul style="list-style-type: none"> Performance test Written test 	

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LESSON 5: PRACTICING OCCUPATIONAL HEALTH AND SAFETY PROCEDURES					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Hazards and risks identification and control Organizational safety and health protocol Threshold limit value (TLV) OHS indicators 	<ol style="list-style-type: none"> Workplace hazards and risks are identified and clearly explained. Hazards/risks and their corresponding indicators are identified in accordance with the company procedures. Contingency measures are recognized and established in accordance with organizational procedures. 	LO1. Identify hazards and risks.	<ol style="list-style-type: none"> Listing down the possible hazards and risks common in the workplace. 	<ul style="list-style-type: none"> Performance test Written test 	
<ul style="list-style-type: none"> TLV table Philippine OHS standards Effects of hazards in the workplace Ergonomics ECC Regulations 	<ol style="list-style-type: none"> Terms of maximum tolerable limits are identified based on threshold limit values (TLV) Effects of hazards are determined. OHS issues and concerns are identified in accordance with workplace requirements and relevant workplace OHS legislation. 	LO2. Evaluate hazards and risks.	<ol style="list-style-type: none"> Writing some possible remedies of known hazards and risks in the workplace 	<ul style="list-style-type: none"> Performance test Written test 	
<ul style="list-style-type: none"> Safety regulations <ul style="list-style-type: none"> Clean air act Electrical and fire safety code 	<ol style="list-style-type: none"> OHS procedures for controlling hazards and risks are strictly followed. 	LO3. Control hazards and risks.	<ol style="list-style-type: none"> Writing the importance of knowing the hazardous and risky objects/fixtures in the workplace. 	<ul style="list-style-type: none"> Written test Performance test 	4 hours

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<ul style="list-style-type: none"> ➤ Waste management ➤ Disaster preparedness and management • Contingency measures and procedures 	<ol style="list-style-type: none"> 2. Procedures in dealing with workplace accidents, fire, and emergencies are followed in accordance with the organization’s OHS policies. 3. Personal protective equipment (PPE) is correctly used in accordance with organization’s OHS procedures and practices. 4. Procedures in providing appropriate assistance in the event of workplace emergencies are identified in line with the established organizational protocol. 				
<ul style="list-style-type: none"> • Operational health and safety procedures, practices, and regulations • Emergency-related drills and training 	<ol style="list-style-type: none"> 1. Procedures in emergency related drill are strictly followed in line with the established organizational guidelines and procedures. 2. OHS personal records are filled up in accordance with workplace requirement 3. PPEs are maintained in line with organizational guidelines and procedures. 	LO4. Maintain occupational health and safety awareness.	1. Explain the advantages of practicing safety precautions in the work area.	<ul style="list-style-type: none"> • Written test • Performance test 	3 hours
					39 hours