



Republic of the Philippines
DEPARTMENT OF EDUCATION



K to 12 BASIC EDUCATION CURRICULUM

TECHNOLOGY AND LIVELIHOOD EDUCATION

CURRICULUM GUIDE

Exploratory Course on

CONSUMER ELECTRONICS SERVICING

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

Curriculum Guide for the Exploratory Course on Consumer Electronics Servicing

For you to get a complete picture of the complete TLE exploratory course on Consumer Electronics Servicing, you are hereby provided with the Curriculum Guide on Consumer Electronics Servicing.

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: USE OF HANDTOOLS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Identifying appropriate hand tools Selecting appropriate hand tools 	<ol style="list-style-type: none"> Appropriate hand tools are identified. Hand tools are selected according to the task requirements. 	LO1. Plan and prepare for tasks to be undertaken.	<ol style="list-style-type: none"> Drawing the different tools used in electronic drafting and giving their functions (matrix form). Drawing a project plan of a soldering activity. Practicing soldering using copper wires with specified sizes in diameter and length. 	<ul style="list-style-type: none"> Written test Performance test 	6 hours
<ul style="list-style-type: none"> Operation of hand tools Function of hand tools Common faults of hand tools Safety requirements for handling tools 	<ol style="list-style-type: none"> Appropriate hand tools are checked for proper operation and safety. Unsafe or faulty tools are identified. All tools for repair according to standard company procedures are marked. 	LO2. Prepare hand tools.		<ul style="list-style-type: none"> Performance test 	
<ul style="list-style-type: none"> Function of tools Safety requirements of tools Proper use of tools 	<ol style="list-style-type: none"> Tools are used according to tasks undertaken. All safety procedures in using tools are observed at all times. Malfunctions, unplanned or unusual events are reported to the supervisor. 	LO3. Use appropriate hand tools and test equipment.		<ul style="list-style-type: none"> Performance test 	

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 2: PERFORMING MENSURATION AND CALCULATION					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Types of components and objects to be identified • Correct specifications relevant sources • Measuring tools selecting the job requirements • Work instruction • Communication skills 	<ol style="list-style-type: none"> 1. Object or component to be measured is identified. 2. Correct specifications are obtained from relevant source. 3. Appropriate measuring instrument is selected in line with job requirement. 	LO1.Select measuring instrument.	<ol style="list-style-type: none"> 1. Draw the resistor color coding chart. 2. Identify different resistors based on their color coded value. 	<ul style="list-style-type: none"> • Written test • Performance test 	6 hours
<ul style="list-style-type: none"> • Appropriate measuring instruments to be used • Using accurate measurements for the tasks given. • Using the four fundamental mathematical operations • Introducing proper procedure in calculating fractions, percentages, and mixed numbers • Interpreting work instruction 	<ol style="list-style-type: none"> 1. Appropriate measuring instruments are selected to achieve required outcome. 2. Accurate measurements are obtained for job specifications. 3. Calculations needed to complete work tasks are performed using the four fundamental operations (addition, subtractions, multiplication and division) 4. Calculation involving fractions, percentages, and mixed numbers are used to complete workplace tasks. 5. Instruments are read to the limit accuracy of the tool. 	LO2. Carry out measurement and calculation.	<ol style="list-style-type: none"> 1. Measuring resistors value and compare to their color-coded value. 2. Computing for the tolerance values of resistors. 3. Solving problems involving Ohm's Law and Power Law. 	<ul style="list-style-type: none"> • Performance test • Written test • Written test 	

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
<ul style="list-style-type: none"> Using appropriate instruments tools to avoid damage. Proper procedure in cleaning up the workplace before and after using Identifying the proper storage of the instruments to be kept that met the manufacturer's specifications and standard to avoid damage in mismatching. Reading skills required to interpret work instruction 	<ol style="list-style-type: none"> Measuring instruments are not dropped to avoid damage. Measuring instruments are cleaned before and after using. Proper storage of instruments is undertaken according to the manufacturer's specifications and standard operating procedures. 	LO3. Maintain measuring instrument.	<ol style="list-style-type: none"> Demonstrating proper care and handling tools and instruments in testing electronic components. 	<ul style="list-style-type: none"> Written test Performance test 	8 hours
LESSON 3: PREPARING AND INTERPRETING TECHNICAL DRAWING					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Drawing conventions Symbols Dimensioning conventions Mark-p/ notation of drawings 	<ol style="list-style-type: none"> Correct technical drawing is selected according to job requirements. Technical drawings are segregated in accordance with the types and kinds of drawings. 	LO1. Identify different kinds of technical drawings.	<ol style="list-style-type: none"> Drawing the different electronic symbols with their corresponding physical appearance. 	<ul style="list-style-type: none"> Performance test 	8 hours
<ul style="list-style-type: none"> Interpreting work instructions Interpreting electrical/ 	<ol style="list-style-type: none"> Components, assemblies or objects are recognized as required. 	LO2. Interpret technical drawing.	<ol style="list-style-type: none"> Drawing the schematic and pictorial diagrams of the following circuits: 	<ul style="list-style-type: none"> Performance test 	

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
electronic signs and symbols	2. Dimensions of the key features of the objects depicted in the drawing are correctly identified. 3. Symbols used in the drawing are identified and interpreted correctly. 4. Drawing are checked and validated against job requirements or equipment in accordance with standard operating procedures.		a. Blinker b. Power supply		
<ul style="list-style-type: none"> Tools and equipment for drawing 	1. Electrical/ electronic schematic diagrams are drawn and correctly identified. 2. Correct drawing are identified, equipment are selected and used in accordance with job requirements.	LO3. Prepare/Make changes on electrical/ electronic schematic diagrams.	1. Converting the unregulated power supply to regulated one.	<ul style="list-style-type: none"> Written test Performance test 	

LESSON 4: OBSERVING OCCUPATIONAL HEALTH AND SAFETY

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Health hazards in the work area • Occupational risks • Personal protective equipment <p>Safety nets in the work area</p>	<ol style="list-style-type: none"> 1. Health hazards and occupational risks are identified. 2. Safety nets are formulated and installed. 3. Protective equipment are identified. <p>Occupational health and safety practices are observed.</p>	<p>LO1. Identify health hazards and occupational risks.</p>	<ol style="list-style-type: none"> 1. Identifying health hazards and occupational risks found in your shop room. 2. Determining the presence of PPE in your laboratory Area. 	<ul style="list-style-type: none"> • Performance test • Written test • Interview 	<p>6 hours</p>
<ul style="list-style-type: none"> • Measures advancing occupational health. • Safety practices in electronics laboratory. 	<ol style="list-style-type: none"> 1. Measures advancing occupational health are observed. 2. Safety procedures are practiced. 	<p>LO2. Observe occupational health and safety practices.</p>	<ol style="list-style-type: none"> 1. Arranging laboratory equipment, tables, chairs, and other related facilities in line with standard OH and S. 	<ul style="list-style-type: none"> • Performance test • Written test • Interview 	

**INDUSTRIAL ARTS – CONSUMER ELECTRONICS SERVICING
(Exploratory)**

LESSON 5: MAINTAIN HAND TOOLS AND EQUIPMENT					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Maintenance of tools Storage of tools Standard operational procedures, principles, and techniques in maintaining tools 	<ol style="list-style-type: none"> Tools are used according to tasks undertaken. Routine maintenance of tools are undertaken according to standard operational procedures, principles and techniques. Tools are stored safely in appropriate locations in accordance with manufacturer specifications or standard operating procedures. 	LO1. Maintain hand tools	<ol style="list-style-type: none"> Performing maintenance procedure on electronic tools and equipment. Performing functional arrangement of electronic hand tools and equipment in cabinet. 	Written test, Oral test Performance test	6 hours
<ul style="list-style-type: none"> Preventive maintenance of hand tools and equipment 	<ol style="list-style-type: none"> Tools and equipment are maintained according to its physical material. Preventive maintenance are regularly conducted 	LO2. Perform basic maintenance of hand tools and equipment .	<ol style="list-style-type: none"> Performing preventive Maintenance on individual Tool and equipment 	Written test, Oral test Performance test	
					40 hours

“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