



Republic of the Philippines
DEPARTMENT OF EDUCATION



K to 12 BASIC EDUCATION CURRICULUM

TECHNOLOGY AND LIVELIHOOD EDUCATION

TEACHER'S GUIDE

Exploratory Course on

AUTOMOTIVE SERVICING

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

TABLE OF CONTENTS

Introduction.....	3
Background Information	
The Overall Goal of the K to 12 Curriculum	3
The Conceptual Framework of the Teaching of TLE.....	3
The TLE Exploratory Courses.....	5
Time Allotment	6
The Learning Modules and Lessons	6
New Feature of the Teaching of TLE	6
About the Learning Module	
Design of the Module.....	7
Parts of the Lesson.....	8
Reflection	12
Curriculum Guide.....	13

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

INDUSTRIAL ARTS – AUTOMOTIVE SERVICING (Exploratory)

Teacher’s Guide for TLE Exploratory Course on Tiles Setting

Introduction

This Teacher’s Guide is intended for you, the TLE teacher, who teaches any of the more than 24 TLE exploratory courses in the Grades 7 and 8 of the K to 12 curriculum. To ensure that you teach the TLE exploratory courses the way they were intended to be taught, you must see the big picture of the K to 12 curriculum and the teaching of TLE. Some background information is necessary.

Background Information

1. The Overall Goal of the K to 12 Curriculum

The K to 12 Curriculum has as its overarching goal *the holistic development of every Filipino learner with 21st century skills who is adequately prepared for work, entrepreneurship, middle level skills development and higher education*. The overarching goal of the K to 12 curriculum, tells you that the teaching of TLE plays a very important role in the realization of the overall goal of the curriculum. Whether or not the K to 12 graduate is skilled and ready for work, entrepreneurship and middle skills development depend to a great extent on how effectively you taught TLE.

2. The Conceptual Framework of the Teaching of TLE

Below is a schematic diagram of Technology and Livelihood Education (TLE) framework in general secondary schools. This should guide you in the teaching of the TLE exploratory courses.

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

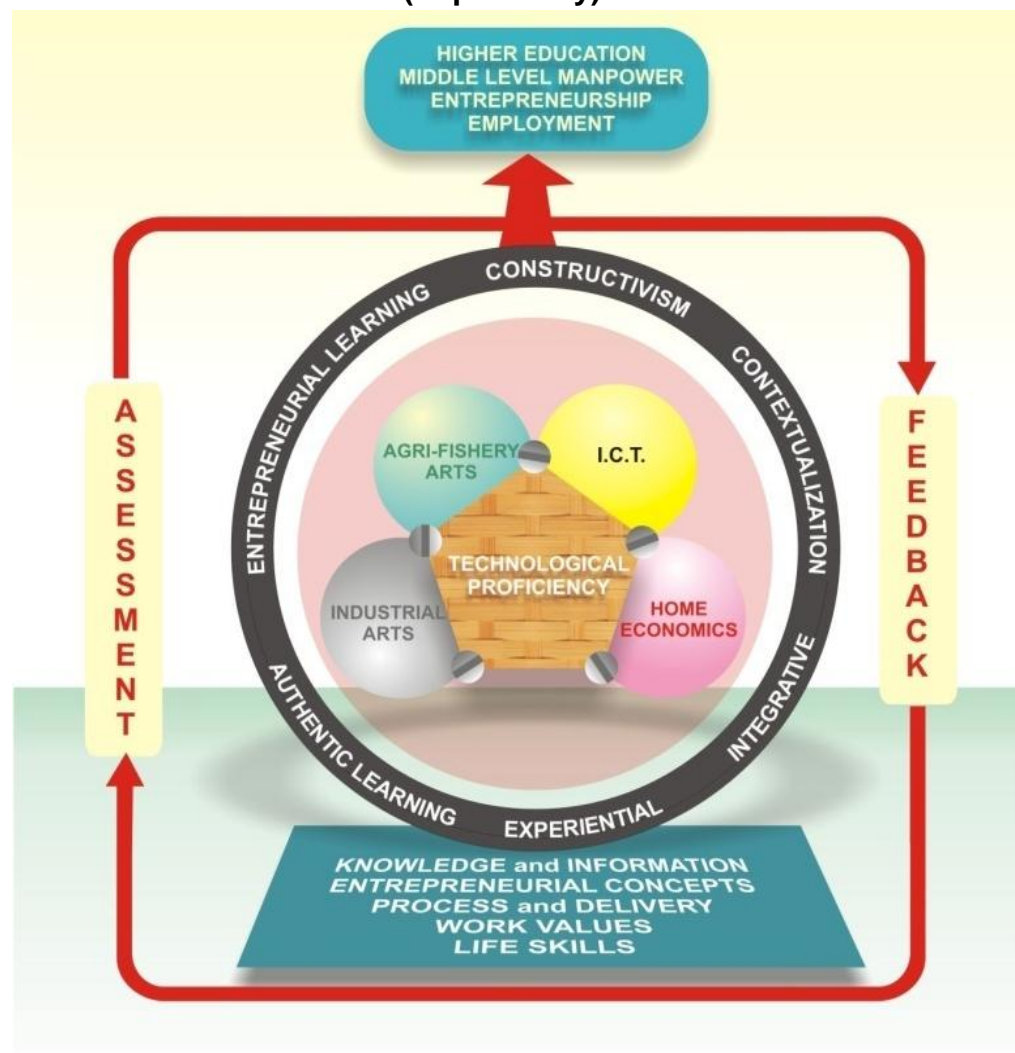


Figure 1.TLE Framework

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

INDUSTRIAL ARTS – AUTOMOTIVE SERVICING (Exploratory)

The diagram shows that Technology and Livelihood Education encompasses the field of Home Economics, Industrial Arts, Agri-Fishery Arts and ICT. The 24 TLE courses can be categorized under any of these fields.

TLE is geared towards the development of technological proficiency and is anchored on knowledge and information, entrepreneurial concepts, process and delivery, work values and life skills. K to 12 TLE is one that...

- a. is built on adequate mastery of knowledge and information, skills and processes, acquisition of right work values and life skills;
- b. equips students with skills for lifelong learning; and
- c. is founded on cognitive, behavioral or psychomotor and affective dimensions of human development.

The diagram likewise shows that entrepreneurial concepts also form part of the foundation of quality TLE. It is expected that your TLE students, after using the Learning Module on Entrepreneurship, imbibe the entrepreneurial spirit and consequently set up their own businesses in the areas of Agri-Fishery Arts, Industrial Arts, Home Economics, and Information and Communication Technology.

TLE by its nature is dominantly a skill subject and so you must engage your students in an experiential, contextualized, and authentic teaching-learning process. It is a subject where your students learn best by doing. It is integrative in approach. For instance, it integrates entrepreneurship with all the areas of TLE. It integrates concepts, skills and values.

3. The TLE Exploratory Courses

TLE in Grades 7 and 8 are exploratory in nature. Your school will choose at least 4 from the list of 24 courses for which 23 Learning Modules have been prepared.¹Your school's choice is determined by the availability of its resources (faculty and facilities) as well as the local needs and resources of the community.

The 24 TLE exploratory courses focus on four basic common competencies: 1) use and maintenance of tools and equipment; 2) mensuration and calculation; 3) occupational health and safety procedures, and 4) preparation and interpretation of technical drawing. Why

¹ There are 24 TLE courses but there are only 23 Learning Modules because there is only one Learning Module for Tailoring and Dressmaking.

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

INDUSTRIAL ARTS – AUTOMOTIVE SERVICING (Exploratory)

are these competencies described basic? Because they are competencies that students must acquire in order that they can do higher level competencies. They are also described common because these are true to all TR-based TLE courses.

4. Time allotment for Technology and Livelihood Education is four hours per week.

The Learning Modules and Lessons

There is a Learning Module for each exploratory course. If there are 24 exploratory courses then you have 24 Learning Modules in your hands. But you will use 4 Modules only for the entire year in Grade 7 and another 4 Modules in Grade 8. In these exploratory courses, you are expected to integrate Income Generating Projects (IGP) to help your students earn while they learn.

Each Learning Module consists of 4 to 5 Lessons². The Lessons are focused on the 4 to 5 common competencies. To avoid meaningless repetition of the teaching of the 5 common competencies, we have to teach them in the context of the TLE course. For example, you teach “use and maintenance of tools” in beauty care when you are teaching the course on Beauty Care. You teach the same competencies - use and maintenance of tools-in Automotive Servicing but in the context of Automotive Servicing and so your tools will not be entirely the same. Definitely, there are some tools that are common to all the courses.

New Feature on the Teaching of TLE

What’s new in the teaching of TLE in the K to 12 curriculum? In the K to 12 curriculum, the TLE courses are taught based on the learning outcomes and performance criteria stated on the Training Regulations (TR) from Technical Education and Skills Development Authority (TESDA). They are TR-based.

Why is this necessary? To prepare the K to 12 graduate for lucrative work, he/she must earn a National Certificate (NC) I, II or even an NC of a higher level that is required by industries. This he/she earns after passing an assessment given by TESDA.

² Some Learning Modules combined use and maintenance of tools to make one Lesson, so the number of Lessons amount to 4; others made separate Lessons for use of tools and for maintenance of tools, thus the total is 5 Lessons.

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

INDUSTRIAL ARTS – AUTOMOTIVE SERVICING (Exploratory)

How can you ensure that the K to 12 high school student (Grade 9 to 12) pass TESDA assessment and obtain an NC? By seeing to it that you teach the TLE course in accordance with the performance criteria and learning outcomes laid down in the TESDA Training Regulations.

Do the exploratory courses enable the high school student to earn already an NC? Not yet. Completion of the exploratory courses may not yet qualify a high school student to take an assessment for an NC. Instead, it helps him/her earn a Certificate of Competency (COC) at least in Grade 9 that will lead eventually him/her to an NC. In short, the COC paves the way to the earning of an NC.

Student's choice of TLE specialization begins in Grade 9. After having been exposed to an array of TLE courses during the exploratory phase in the first two years, the student will be most benefited, if in Grades 10, 11, or 12 he/she continues with a TLE course in which he/she already has a COC. In that way, he/she will get an NC faster.

About the Learning Module

1. Design of the Module
 - a. The Module is designed to be a teacher-assisted learning kit or a self-learning kit on competencies that a Grade 7 TLE ought to possess. It explores the course on Aquaculture which helps your student earn a Certificate of Competency in Grade 9 which leads to a National Certificate Level I / II (NCI / II) in Grades 10, 11 or 12.
 - b. The Learning Module is made up of 4 to 5 Lessons based on the competencies. Each Lesson contains the following:
 - 1) Learning Outcomes
 - 2) Performance Standards
 - 3) Materials/Resources
 - 4) Definition of Terms
 - 5) What Do You Already Know?
 - 6) What Do You Need to Know?
 - 7) How Much Have You Learned?

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

INDUSTRIAL ARTS – AUTOMOTIVE SERVICING (Exploratory)

- 8) How Do You Apply What You Learned?
- 9) What Is Your Score?
- 10) References

There are some TLE Modules which have a section on “How Do You Extend Your Learning?” This section is meant for enrichment. It is usually given as an assignment for not everything can be taught and done in the classroom given the limited time.

c. The **Self-check** given after the pretest and information sheet/s can also serve as the posttest of the lesson.

2. Parts of the Lesson. -The following explain the parts of each Lesson and describe what your students’- as well as your tasks are.

Part of the Lesson	Students’ Task	Teacher’s Task
<p>1. Learning outcomes are what your TLE student is supposed to know and be able to do after using the module. Since our TLE courses are TR-based, all learning outcomes are lifted from the TESDA TR. In the Curriculum Guide (the matrix which contains Content Standard, Performance Standard, Learning Competencies, Projects/Activities, Assessment, Duration), the identified Learning Outcomes are written in the column of Learning Competencies.</p>	<p>Students acquaint themselves with the learning outcomes and performance standards and make them their personal goals.</p>	<p>You introduce the learning outcomes to your students and make sure that they understand them and make these learning targets their own.</p> <p>Make these your goals for instruction.</p>
<p>2. Performance Standards are referred to as “performance criteria” in the TESDA TR. They are more specific descriptions of the student’s behavior that serve as evidence</p>	<p>Students clearly understand the performance standards and make them their own learning goals.</p>	<p>You introduce the performance standards to your students and make sure that they understand them and make these performance standards their own.</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

<p>that the expected learning outcomes have been realized with the expected level of proficiency or in accordance with established standards.</p> <p>The learning outcomes and performance standards set the direction of your lessons. These are what you should teach and, in turn, what you should assess. They are identified and are written for you in the Curriculum Guide.</p>		<p>Let these standards give your lesson its specific direction.</p>
<p>3. Materials/Resources and References To teach effectively, you need materials and references. Materials may include equipment, hand tools or consumables. The references are the books, magazines, articles, websites you yourself and your students will read or refer to in order to gain greater understanding of the lesson. They are either in soft copy or hard copy.</p>	<p>Get to know the materials. They are part of the Lesson.</p> <p>By all means, read the references for lesson mastery.</p>	<p>Prepare the materials you need in advance. For gadget, tool or equipment, it is always wise to prepare, check and try them in advance to ensure that they function when you use them. As the saying goes “forewarned is forearmed.”</p> <p>Be resourceful in the preparation of materials. You are strongly encouraged to use appropriate local materials as substitute for listed materials that are not available.</p> <p>For effective teaching, your lesson preparation should include reading the list of references.</p> <p>Do not limit yourself to the list of references. If you discover good reference material/s, add to the list of references.</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

		Introduce the references to your students. Motivate them to read these references as they go through the module for mastery of the lesson.
<p>4. The definition of terms and acronyms will help you understand the meaning of key words in your lesson. Defining key words as they are used in your lesson will ensure that the key terms in your lesson mean one and the same for everyone in class and so avoid misunderstanding.</p>	<p>Refer to the definition of terms for greater understanding of the lesson.</p>	<p>Remind your students to refer to the definition of terms and acronyms for clearer understanding of the lesson.</p>
<p>5. The section “What Do You Already Know” is intended to determine entry knowledge and skills of your students to find out if you have to teach the lesson, teach some parts of the lesson or skip it entirely because your students already know it. This is done by way of a pretest.</p>	<p>Take the test honestly.</p> <p>Check answers against the answer key provided.</p>	<p>Tell your students to accomplish the pretest. Ask your students to use a separate sheet of paper for their answers. Explain that the purpose of the pretest is to find out how much they already know about the lesson in order to determine your next steps. It is, therefore, necessary that they take the test honestly, if they want to learn or want to be helped.</p> <p>Make it clear to them that their scores will not be recorded for grading purposes and will not be taken against them.</p> <p>If you find out that your students already know what you are about to teach, logic dictates that you do not need to teach it anymore. You may as well proceed to the next lesson. If, however,</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

		<p>you find out that they do not yet know what you are about to teach, then by all means teach. Or if you discover that your students have some erroneous concepts, then teach and correct their misconceptions. To know what your students already know and do not yet know will guide you in adjusting your instruction.</p> <p>This means that you always start your lesson presentation with the results of the pretest because you are going to teach them what they do not yet know and correct whatever wrong concepts they have at the beginning of the lesson.</p>
<p>6. “What Do You Need To Know?”- This section contains one or more Information Sheets and for some modules an Operation Sheet. These are important notes for the TLE student to read after which he/she is asked to do a Self-check to determine how much he/she has learned. The self-check functions as a pretest.</p>	<p>Read and understand the Information Sheet/s and /or Operation Sheet.</p> <p>Be prepared For a Self-check which serves as a posttest.</p> <p>Correct answers by referring to the answer key.</p>	<p>Make sure students are engaged in reading the Information Sheet/Observation Sheet and in answering the self-check.</p> <p>Give assistance to your students where needed.</p>
<p>7. “How Do You Apply What You Learned?” – In this section, you give your student the opportunity to transfer what he/she has learned in another activity or in real life situation. Ideally, this should be a performance test, what you usually call</p>	<p>Do the Activity.</p> <p>To determine level of performance, use the scoring rubrics or check answers against the answer key, whichever is applicable.</p>	<p>Find a way to test real life application of what your students have learned.</p> <p>Do not hesitate to use ways of determining how your students can apply learned facts and concepts which are more authentic and realistic</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

<p>practical test. If “the proof of the pudding is in the eating”, then your student must be able to apply what she/he learned in real-life setting or must be able to come up with a product as an evidence of learning.</p>	<p>Reflect on assessment results.</p>	<p>than that/those given in the Module. Reflect on assessment results. Use assessment results in planning the next steps for instruction.</p>
<p>8. How Do You Extend Your Learning? – As the word implies, this activity is done outside class hours for enrichment purposes. This can reinforce lesson mastery.</p>	<p>Do the task assigned outside class hours.</p>	<p>Motivate the students to do the task by making clear what the enrichment activity is about –why it is given, how it is done, how it relates to the class lesson .</p>

Reflection

It is a good habit to reflect on your teaching for the day – what went well, what did not go well, why this activity went well with this group, why it didn’t work well with the other group. What are your realizations? What are lessons learned? Jot them down in your diary. Commit them to your memory. If you do this consistently, you will find your delivery improve substantially.

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

Curriculum Guide for the Exploratory Course on Automotive Servicing

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

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: USE HAND TOOLS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Plan and prepare for task to be undertaken Prepare the following: <ul style="list-style-type: none"> Place Materials Waste Disposal Tools/Equipment Safety Service Procedures/Task 	<ol style="list-style-type: none"> Tasks to be undertaken are properly identified. Appropriate handtools are identified Hand tools are selected according to task requirements. 	LO1. Plan and prepare for tasks to be undertaken	<ol style="list-style-type: none"> Prepare plan and organize tasks to be undertaken in selecting tools. Classify tools according to use. <ol style="list-style-type: none"> cutting bending/holding driving marking measuring tightening / loosening 	<ul style="list-style-type: none"> Written test Performance test 	2.5 hours
<ul style="list-style-type: none"> Prepare and use hand tools Operation of Hand Tools Classification of Hand Tools 	<ol style="list-style-type: none"> Appropriate hand tools are checked for proper operation and safety. 	LO2. Prepare and use hand tools	<ol style="list-style-type: none"> Utilizing appropriate hand tools <ol style="list-style-type: none"> Loosening and tightening bolts /screws 	<ul style="list-style-type: none"> Written test Performance test 	3.0 hours

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
<ul style="list-style-type: none"> Observing safety requirements/ procedure in using hand tools Common faults of hand tools 	<ol style="list-style-type: none"> Unsafe or faulty tools are identified. All tools are marked for repair according to standard company procedures. 		<ol style="list-style-type: none"> Inspecting and testing functionality of tools for repair and recycling in preparation for its usability. 		
<ul style="list-style-type: none"> Preparing report on malfunctions of hand tools in unplanned or unusual events Sample Inventory of Tools Sample Account of Condition of Tools 	<ol style="list-style-type: none"> Malfunction of hand tools in unplanned or unusual events are reported. 	LO3. Prepare a report of malfunctioning hand tools equipment.	<ol style="list-style-type: none"> Conduct an inventory and prepare a report of good and damaged tools in unplanned or unusual events. 	<ul style="list-style-type: none"> Written test Performance test 	2.0 hours
<ul style="list-style-type: none"> Applying standard operational procedures, principles and techniques in maintaining hand tools Operational procedure in tools and equipment maintenance 	<ol style="list-style-type: none"> Routine maintenance of tools are undertaken according to standard operational procedures, principles, and techniques. Tools are stored safely in appropriate 	LO4. Maintain hand tools.	<ol style="list-style-type: none"> Select, arrange, and maintain hand tools Perform operational standard procedures, principles, and techniques in maintaining tools 	<ul style="list-style-type: none"> Written test Performance test 	2.5 hours

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
	locations in accordance with manufacturer’s specifications or standard operating procedures.				
LESSON 2: PERFORM MENSURATION AND CALCULATION					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Types of measuring instruments and applications • Techniques in measuring and determining tolerance/allowance of parts/components • Methods of calculation/conversion of units of measurement 	<ol style="list-style-type: none"> 1. Objects or components to be measured are identified. 2. Appropriate measuring tool/ instrument is selected as per job requirement. 3. Calculations needed to complete work/task are performed and checked using the fundamental operations of mathematics. 	<p>LO1. Select measuring instrument and carry out measurement and calculations.</p>	<ol style="list-style-type: none"> 1. Selecting and utilizing measuring tools according to required tasks <ol style="list-style-type: none"> a. feeler gauge b. torque wrench c. calipers d. industrial thermometer 2. Applying specifications to bolts and nuts. 3. Converting the following: Metric system to English system and vice-versa 	<ul style="list-style-type: none"> • Written and oral test • Performance test 	<p>3.0hours</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
			<ul style="list-style-type: none"> - linear measurement - liquid capacity - thermal measurement. 		
<ul style="list-style-type: none"> • Safe handling procedures, and care of measuring instruments 	<ol style="list-style-type: none"> 1. Measuring instruments are calibrated, safely handled, and cleaned before and after using in accordance with industry standards. 2. Measuring instruments are kept in safe, dry place. 3. Proper techniques in using precise instruments are performed according to manufacturer's standards. 	LO2. Maintain measuring instruments.	<ol style="list-style-type: none"> 1. Cleaning and maintaining measuring tools. 2. Calibrating and storing precision instruments in convenient and safe place. 	<ul style="list-style-type: none"> • Written test • Performance test 	2.5 hours

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

LESSON 3: INTERPRET PLANS AND DRAWINGS					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> Analyze signs ,symbols and Data Basic Sign Category Identifying symbols used in plans and drawings Identifying units of measurements Dashboard Symbols 	<ol style="list-style-type: none"> Signs, symbols, and data are identified according to job specifications. Sign, symbols, data, and abbreviations are determined according to classification or appropriateness in drawings. 	<p>LO1. Analyze signs, symbols and data.</p>	<ol style="list-style-type: none"> Draw and examine traffic signs and symbols Drawing ,sketching and labeling pictorial of engine parts. 	<ul style="list-style-type: none"> Written test Performance test 	<p>2.5 hours</p>
<ul style="list-style-type: none"> Diagrams,plans and drawing Common electrical symbols 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 objects are recognized. Dimensions and specifications are identified according to job requirements. 	<p>LO2. Interpret technical drawings and plans.</p>	<ol style="list-style-type: none"> Differentiate automotive diagrams and plans Identifying different electrical symbols Drawing and labeling electrical symbols/circuit diagram. 	<ul style="list-style-type: none"> Written test Performance test 	<p>2.5 hours</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

LESSON 4: PERFORMINGSHOP MAINTENANCE					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Workshop policies and service procedures • General requirements of Safety in Workshop Policy • Standard Safe Handling of Tools, Materials and Equipment • Types and usage of cleaning chemicals 	<ol style="list-style-type: none"> 1. Tools, equipment, and work area are inspected and cleaned free from dust, grease, and other substances. 2. Cleaning solvent used as per workshop cleaning requirements is observed. 3. Work area is checked and cleaned. 	<p>LO1. Inspect/clean tools and shop equipment.</p>	<ol style="list-style-type: none"> 1. Inspecting and evaluating the existing condition of tools, equipment, and work area. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>2.5 hours</p>
<ul style="list-style-type: none"> • Personal safety and labeling procedures and techniques • Principles of total quality management (TQM) and 5S 	<ol style="list-style-type: none"> 1. Corresponding labels for containers and waste materials are posted and made visible. 2. Tools quality management is followed. 	<p>LO2. Store/arrange tools and shop equipment</p>	<ol style="list-style-type: none"> 1. Arranging, labeling and securing tools and equipment. 2. Performs 5S in workplace. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3.0hours</p>
<ul style="list-style-type: none"> • Waste management <ul style="list-style-type: none"> ○ Cleaning chemicals / materials • Effects of automotive 	<ol style="list-style-type: none"> 1. Waste and used materials are disposed in accordance with the standard operational 	<p>LO3. Dispose waste/used lubricants</p>	<ol style="list-style-type: none"> 1. Surfing internet on Environment Protection Policies. 	<ul style="list-style-type: none"> • Written test • Performance test 	<p>3.0 hours</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

wastes on men and the environment	procedures and environmental regulations. 2. Personal safety in disposing waste and used materials are observed.				
LESSON 5: PRACTICING OCCUPATIONAL HEALTH AND SAFETY PROCEDURES					
<i>Demonstrate understanding of/on:</i>					
<ul style="list-style-type: none"> Hazards and risks identification and control Organizational safety and health protocol 	<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"> Preparing workplace in good and orderly condition Making contingency measures in line with standard organizational procedures 	<ul style="list-style-type: none"> Written test Performance test 	3.0hours
<ul style="list-style-type: none"> Effects of hazards in the workplace Ergonomics Some hazardous 	<ol style="list-style-type: none"> Effects of hazards are determined. OHS /ECC issues and concerns are identified 	LO2. Evaluate hazards and risks	<ol style="list-style-type: none"> Listing down problems and make necessary solutions to hazardous and 	<ul style="list-style-type: none"> Written test 	2.5 hours

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

<p>substance that causes local and systemic effect.</p>	<p>in accordance with workplace requirements and legislation. 3. OHS procedures for controlling hazards and risk are strictly followed. 4. OHS personal records are filled up in accordance with workplace requirements. 5. Design of facilities/fixtures in human facilities is recognized</p>		<p>risky workplace condition 2. Reporting the following: a. common accidents in the workplace b. standard size of tables, space of work area c. human convenience to workplace physical design of shop facilities/fixture.</p>		
<ul style="list-style-type: none"> • Procedures involve in the control of hazards and risks • Hierarchy of control 	<ol style="list-style-type: none"> 1. Procedures in dealing with workplace accidents, fire and emergencies and provision of appropriate assistance in the workplace emergencies are identified and followed in accordance with the organization's OHS policies. 2. Personal Protective Equipment (PPE) is correctly used and 	<p>LO3. Control Hazards and Risk</p>	<ol style="list-style-type: none"> 1. Conducting inventory and using of: <ol style="list-style-type: none"> a. PPE b. fire fighting equipment c. emergency/ first aid kit/ materials d. waste disposal bin. 2. Video presentation on Disaster Risk Reduction Program. 3. Conducting DRRP 	<ul style="list-style-type: none"> • Written test • Performance test • Evaluation report on DRRP drills 	<p>2.5 hours</p>

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**INDUSTRIAL ARTS – AUTOMOTIVE SERVICING
(Exploratory)**

	maintained in accordance with the organizations OHS procedures and practices.		drills.		
<ul style="list-style-type: none"> Guidelines in maintaining occupational safety and health AWARENESS Emergency-related drills and training 	<ol style="list-style-type: none"> Procedures in emergency-related drills are strictly followed in line with the established organization guidelines and procedures. OHS personal records are filled up in accordance with workplace requirements. PPE is maintained in line with organization guidelines and procedures. 	LO4. Maintain occupational health and safety awareness	<ol style="list-style-type: none"> Conducting OHS awareness. Simulating OHS practices. 	<ul style="list-style-type: none"> Written test Performance test 	2.5 hours
					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