

Automotive Servicing NC II

Course Description

This course is designed to enhance the knowledge, skills and attitudes of an individual in the field of automotive servicing in accordance with industry standards. It covers basic, common and core competencies such as: service charging and starting system, service engine mechanical system, service clutch system, service differential and front axle, service steering system, overhaul manual transmission, service brake system and service suspension system.

Nominal Duration

• Basic Competencies	68 hrs.
• Common Competencies	172 hrs.
• Core Competencies	940 hrs.
• Institutional Assessment	8 hrs.
• Supervised Work-Based Training	80 hrs.

TOTAL 1,268 hrs.

A person who has achieved this qualification is competent to be:

- **Automotive Mechanic**
- **Automotive Service Technician**

TRAINEE ENTRY REQUIREMENTS:

- At least 15 years of age
- Physically and mentally fit
- Can communicate in English. Both Oral and Written
- Must undergo Career Profiling and Trainability Evaluation

TWC Training is guided by the ten (10) basic principles of Competency-Based Training (CBT) delivery.

1. The training is based on curriculum developed from the competency standards;
2. Learning is modular in its structure;
3. Training delivery is individualized and self-paced;
4. Training is based on work that must be performed;
5. Training materials are directly related to the competency standards and the curriculum modules;
6. Assessment is based in the collection of evidence of the performance of work to the industry required standard;
7. Training is based on both on and off-the-job components;
8. Allows for recognition of prior learning (RPL) or current competencies;
9. Training allows for multiple entry and exit; and
10. Approved training programs are Nationally Accredited

Course Structure

BASIC COMPETENCIES

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Work in a team environment	• Observing gender sensitivity in the workplace	• Discuss the differences between sex and gender • Discuss gender identity & sexual orientation • Analyse the different manifestations of gender inequality in TVET and in society • Discuss gender & rights based approach to sexual & reproductive health including HIV-AIDS awareness and prevention	12 hrs
	• Working in a team environment	• Describe team role and scope • Identify individual role & responsibilities within a team • Develop effective workplace relationship including personal values & beliefs related to gender • Work as a team member • Contribute to work group activities	4 hrs
• Participate in workplace communications	• Participating in workplace communications	• Follow routine spoken messages • Perform workplace duties following written notices • Obtain and convey workplace information • Complete relevant work-related documents • Participate in workplace meeting and discussion applying gender-fair language	20 hrs
• Practice career professionalism	• Demonstrating work and entrepreneurial values and gender sensitivity	• Describe the purpose of work and enterprise • Identify and deal with ethical problems • Apply work and entrepreneurial values and gender sensitivity • Maintain integrity of conduct in the workplace	4 hrs
	• Practicing career professionalism	• Integrate gender perspectives with personal and organizational goals • Set and meet work priorities • Maintain professional growth and development	4 hrs
• Practice occupational health and safety procedures	• Practicing basic housekeeping procedures	• Sort and remove unnecessary items • Arrange items • Maintain work areas, tools and equipment • Follow standardized work process and procedures • Perform work spontaneously	12 hrs
	• Practicing occupational health and safety procedures	• Identify hazards and risks • Evaluate hazards and risks • Control hazards and risks • Maintain occupational health and safety awareness including women's issues/ concerns relative to OSH	12 hrs

COMMON COMPETENCIES

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Apply appropriate sealant/ adhesive	• Applying appropriate sealant/ adhesive	• Identify appropriate sealant/ adhesive • Prepare surface for sealant/ adhesive application • Store unused and dispose used sealant/adhesive	40 hrs
• Move and position vehicle	• Moving and Positioning Vehicle	• Prepare vehicle for driving • Move and position vehicle • Check the vehicle	8 hrs

Course Structure

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Perform mensuration and calculation	• Performing mensuration and calculation	• Select measuring instrument and carry out measurement and calculations. • Maintain measuring instruments	40 hrs
• Read, interpret and apply specifications and manual	• Reading, interpreting and applying specifications and manual	• Identify/accessed manuals and interpret data and specification • Apply information accessed in manual • Store manual	8 hrs
• Use and apply lubricant/ coolant	• Using and applying lubricant / coolant	• Identify type of lubricant/coolant • Use and apply lubricant	16 hrs
• Perform shop maintenance	• Performing shop maintenance	• Inspect/clean tools and work area • Store/arrange tools and shop equipment • Dispose wastes/used lubricants • Report damaged tools/equipment	16 hrs
• Prepare job estimates	• Preparing job estimates	• Identify nature/scope of work • Prepare and present estimates	8 hrs
• Interpret/ draw technical drawing	• Interpreting/ drawing technical drawing	• Interpret technical drawing • Select correct technical drawing • Apply freehand sketching	8 hrs
• Practice health, safety and environment procedures	• Practicing health, safety and environment procedures	• Apply basic safety procedures • Apply emergency procedures	4 hrs
• Inspect technical quality of work	• Inspecting technical quality of work	• Gather information to carry out inspection • Inspect and apply quality standards to work • Achieve quality work outcomes	8 hrs
• Maintain quality systems	• Maintaining quality systems	• Conduct final quality check on completed work/ orders • Report on the quality of processes and work outcomes • Implement improvements to work processes	4 hrs
• Provide work skill instructions	• Providing work skill instructions	• Organize instruction and demonstration • Conduct instruction and demonstration • Check training performance • Review personal training performance and finalize documentation	4 hrs
• Identify and select original automotive parts and products	• Identifying and select original automotive parts and products	• Identify the part/ product and its end use • Identify details of the part/product • Part/ product is supplied or ordered for customer	8 hrs

CORE COMPETENCIES

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Service automotive battery	• Servicing automotive battery	• Test automotive battery • Remove and replace batteries • Service and charge batteries • Jump-start vehicle	32 hrs
• Service ignition system	• Servicing ignition system	• Check ignition system • Perform spark test • Check ignition coil resistance • Check ballast resistor • Adjust contact point clearance (if any) • Perform ignition wiring installation • Perform ignition timing • Repair non-electronic ignition system and/or components	32 hrs

Course Structure

CORE COMPETENCIES

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Test and repair wiring/lighting system	• Testing and repairing wiring/lighting system	• Test electrical systems • Repair electrical systems	48 hrs
• Service starting system	• Servicing starting system	• Test starting system/components and identify faults • Repair starting systems associated components	32 hrs
• Service charging system	• Servicing charging system	• Test charging system components and identify faults. • Repair charging system associated components	32 hrs
• Service engine mechanical system	• Servicing cooling system	• Explain coolant circulation within cooling system • Check thermostat condition • Perform leakage test on cooling system • Repair/replace water pump • Apply coolant additives	48 hrs
	• Servicing lubricating system	• Explain oil cycle within the engine • Identify types, classification and application of engine oil • Overhaul oil pump replace oil filter and change oil	
	• Servicing gasoline fuel system	• Explain fuel octane rating • Identify fuel pump types and classification • Perform carburetor adjustment • Overhaul carburetor	
	• Servicing air induction system	• Overhaul turbo charger • Check turbo charger operation	
	• Servicing diesel fuel injector	• Overhaul diesel fuel injector • Calibrate/install injector	
• Service clutch system	• Servicing clutch system	• Diagnose clutch failure/problem • Pull out and mount clutch component parts • Overhaul hydraulic clutch mechanism • Perform clutch parts failure analysis • Set/adjust clutch system components • Bleed clutch hydraulic system	32 hrs
• Service differential and front axle	• Servicing differential and front axle	• Inspect drive shaft and joint • Dismount differential assembly • Overhaul differential • Mounting differential assembly • Overhaul rear/front wheel hub • Analyze king pin condition • Inspect/replace I-beam	32 hrs
• Service steering system	• Servicing steering system	• Analyze front end geometry failure • Service steering system • Perform wheel balancing • Conduct wheel alignment	48 hrs
• Service brake system	• Identifying and explaining hydraulic brake principle (ABS), component and function	• Identify the types of hydraulic brake (hydraulic ABS) and its corresponding component and function • Explain the operating principle of ABS equipped brake • Interpret schematic diagrams and circuitry	40 hrs
	• Servicing brakes	• Perform brake system preventive maintenance • Diagnose brake system failure • Perform ABS component testing	
	• Overhauling brake system	• Pull-out/mount brake system components • Disassemble/assemble brake system components • Conduct road test	

Course Structure

CORE COMPETENCIES

Unit of Competency	Module Title	Learning Outcomes	Nominal Duration
• Service suspension system	• Servicing suspension system	• Diagnose suspension system failure • Dismount/mount suspension components parts • Disassemble/Assemble suspension parts • Inspect/replace suspension component parts	40 hrs
• Perform underchassis preventive maintenance	• Performing underchassis preventive maintenance	• Check clutch fluid and lines • Inspect brake system • Inspect/change/transmission/differential gear oil • Inspect/replace power steering fluid • Check/re-fill automatic transmission fluid • Inspect/bleed air tank • Check tires and tire pressures • Check under-chassis body bolts and nuts	48 hrs
• Overhaul manual transmission	• Overhauling manual transmission	• Diagnose manual transmission failure testing transmission • Pull-out manual transmission • Disassemble manual transmission • Inspect manual transmission parts • Assemble manual transmission • Test manual transmission • Road test manual transmission	40 hrs
• Perform diesel engine tune up	• Performing diesel engine tune up	• Set and install injection pump to engine • Inspect injection timing • Bleed injection system components • Conduct compression testing pump	80 hrs
• Perform gas engine tune up	• Performing gas engine tune up	• Identify and explain the functions of tune up equipment and enumerate the major steps in tuning up an engine • Check and adjust valve tappet clearance • Inspect/Test spark plug • Check/replace fuel and air filter • Test and replace ignition breaker • Check and adjust distributor setting • Set fuel mixture and idle rpm. • Perform compression test	104 hrs
• Remove and replace electrical/electronics unit/assemblies	• Removing and replacing electrical/electronics unit/assemblies	• Prepare for work • Remove electrical/electronic units/assemblies • Replace electrical/electronic units/assemblies • Clean up work area and maintain equipment	40 hrs
• Remove and tag engine system components	• Removing and tagging engine system components	• Prepare to remove and tag engine system components • Remove engine system components • Tag engine system components	40 hrs
• Remove and tag steering, suspension and brake system components	• Removing and tagging steering, suspension and brake system components	• Prepare to remove and tag steering, suspension and brake system components • Removing steering, suspension and brake system components • Tag steering, suspension and brake system components	128 hrs
• Remove and tag transmission system components	• Removing and tagging transmission system components	• Prepare to remove and tag transmission system components • Remove transmission system components • Tag transmission system components	44 hrs



TESDA Women's Center

VISION

“TESDA Women's Center is the lead TVET Institution of excellence in empowering Filipino women.”

MISSION

“As the lead TVET Institution of excellence in women empowerment, TESDA Women's Center advocates and provides programs and services geared towards quality-assured, inclusive and gender-fair TVET.”

AUTOMOTIVE SERVICING NC II



For inquiries, please call us at

Telephone Numbers: 887-7777 or 817-2650

Email address: twc@tesda.gov.ph

Website: <http://www.tesda.gov.ph>

Facebook: <http://www.facebook.com/TESDAWomenCenter>

Gate 1, TESDA Complex, East Service Road, South Superhighway, Taguig City