TEACHING PLAN

For use with

IMI Entry Level 3 Award/Certificate/Diploma for the Introduction to Motor Vehicle Industry and Technologies

601/8195/3
601/8196/5
601/8197/7

FOR ASSESSORS & QUALITY ASSURERS ONLY

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Mandatory Units

Optional Units

UNIT REF: ELMV01	UNIT TITLE: INTRODUCTION TO HEALTH AND SAFETY

Level: Entry Level 3	Guided Learning (GL): 18 Hours	
Overview: This unit will provide the learner with the knowledge and understanding of workshop health and safety practices and a range of personal protective equipment, used in the transportation and Motor industry.		
Learning Outcomes:		
1. Know the personal protective equipment that is suitable for specific motor vehicle related tasks 2. Know the meaning of common motor vehicle workshop safety signs 3. Know workshop emergency evacuation procedures 4. Know unsafe workshop practices		
Subject	**AC**	**Teaching Methods**
Personal Protective Equipment	1.1	Provide definitions of different job roles in the motor industry and facilitate the learners to identify how PPE differs between automotive job roles. Produce matching exercises which promotes the selection of the PPE to a specific job role.
Workshop Safety Signs	2.1	Provide visual examples of safety signs. Facilitate group work activities which will aid the learners in identifying and recording the different colours, shapes and meanings of workshop safety signs. Devise quizzes and interactive 'safety sign' learning material.
Emergency Evacuation Procedures	3.1-3.2	Facilitate the learners in locating workshop emergency exits. Devise group activities which will enable the learners to identify the correct stages of an emergency evacuation. Facilitate the learners in participating in a ‘mock’ emergency evacuation. Discuss and record the consequences of failing to following the correct stages of an emergency evacuation.
Safe and Unsafe Working Practices	4.1	Use videos, role play, pictures and straightforward scenarios to aid the learners in identifying and recording unsafe workshop practices. Observe and track the learners' performance during a mock evacuation procedure.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 21 hrs		

UNIT REF: ELMV02	UNIT TITLE: INTRODUCTION TO CAREERS IN TRANSPORTATION, MAINTENANCE AND REPAIR

Level: Entry Level 3	Guided Learning (GL): 14 Hours

Overview: This unit will enable the learner to recognise automotive charities, job roles and careers in a range of industries, which involve the use of transportation. The learner will use the knowledge to pursue training and careers within an area of interest.

Learning Outcomes:

1. Know the purpose of the automotive charity BEN
2. Know different types of transportation
3. Know services and industries which uses transportation
4. Know of different careers paths in the transportation industry
5. Know how to locate career guidance information for job roles

Subject	AC	Teaching Methods
The Automotive Charity, BEN	1.1-1.2	Use the website to outline the purpose of the Automotive Charity 'BEN' and design activities which highlights how they provide support and advice to people in the Automotive and Transportation Industry. Discuss and record the services which are offered by BEN. Provide activities which encourages the learners to locate the different sources of contact details for the charity.
Types of Transportation	2.1	Provide visual images of different types of transportation. Discuss and facilitate the recording of the main features and purposes of the different types of transportation.
Services and Industries that Use Transportation	3.1	Devise activities which enables the learners to identify different industries and services which may use forms of transportation. Facilitate group activities which promotes the main reasons why different forms of transportation are suited to specific industries and services. Facilitate and encourage the learners to match the different types of transport to an appropriate industry.
Career Paths within the Transportation Industry	4.1-4.2	Devise activities which will enable the learners to identify different career paths which are available within the transportation industry and the typical job roles associated with those career paths, for example, accident repair centres, incorporate: Paint Sprayers, Vehicle Body Technicians and MET Technicians. Use media, videos and interviews from different career paths, such as: the Construction Plant industry, the Motorcycle industry and the Armed Services to demonstrate the diversity of the transportation industry.
Career Guidance for Job Roles	5.1-5.3	Provide suitable sources of careers guidance and discuss how the learners may gain access to them, for example, visiting careers guidance centres, trade magazines and Internet websites. Arrange for the learners to attend a career fair or skills show and design activities to demonstrate how these sources can assist with choosing personal career paths. Provide a selection of company details which relate to the learners personal career choices. Provide examples of qualifications which are available for chosen career paths and discuss where they can be accessed, (local training providers and colleges).Encourage the learners to research a career of their interest. Arrange guest speakers from different job roles within the industry, for example, a Mechanical Technician and an Accident Repair Technician.
Complete the learner worksheet	1.1-5.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 19 hrs

UNIT REF: ELMV03	UNIT TITLE: INTRODUCTION TO HAND TOOLS

Level: Entry Level 3	Guided Learning (GL): 16 Hours	
Overview: This unit will enable the learner to recognise general workshop hand tools and become familiar with their use. The tools referred to in this unit are transferable across all the disciplines in this qualification and can be referenced to other units. The learner may demonstrate the use of the tools by completing a project.		
Learning Outcomes:		
1. Know how to select the correct PPE when using hand tools **2. Know a range of workshop tools and equipment**		
Subject	**AC**	**Teaching Methods**
Personal Protective Equipment	1.1	Provide visual aids for the different types of PPE associated with different automotive job roles and the tools they use. Facilitate group work to highlight the reasons for choosing the particular types of PPE and their suitability for specific tasks. Devise activities which will aid the learners in identifying the consequences of not using the correct PPE when using automotive tools and equipment. Devise activities, which will assist the learners in matching the correct PPE with specific tools and equipment.
Workshop Tools and Equipment	2.1-2.2	Provide examples of tools and equipment and facilitate group work activities, which will aid the learners in identifying how the designs differ from each other. Use video or visual methods to highlight typical uses for tools and equipment within an automotive environment.
Using Tools and Equipment	2.1-2.2	Use visual methods to demonstrate how tools and equipment can be easily located when they are stored in a suitable area. Provide visual examples of good and bad practice, when storing tools and equipment. Outline, discuss and record the importance of cleaning and returning tools and equipment to their storage areas after use. Provide activities which will highlight the checks which can be used to identify defects, commonly associated with tools and equipment. Devise a straightforward scenario to aid the learners in identifying how to report defects which have been found when checking tools and equipment. Use visual methods to show the correct use of tools and equipment and the consequences of failing to do so.
Complete the learner worksheet	1.1-3.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 19 hrs		

UNIT REF: ELMV04	UNIT TITLE: : COMMUNICATION IN THE MOTOR VEHICLE ENVIROMENT

Level: Entry Level 3	Guided Learning (GL): 8 Hours	
Overview: This unit will enable the learner to gain the knowledge and skills to successfully use the appropriate communication methods, within a motor vehicle environment. The learner will recognise appropriate types of communication for given situations and gain confidence through interaction.		
Learning Outcomes:		
1. Know methods of communication used in a motor vehicle environment		
Subject	**AC**	**Teaching Methods**
Methods of Communication	1.1-1.4	Devise group activities to highlight the importance of effective communication in the motor vehicle environment. Provide real-life evidence, where poor communication has been the cause of customer complaints, the incorrect work being carried out or dangerous occurrences. Devise group activities which promote different methods of communication. Record the learners' feedback on the advantages and disadvantages of different communication methods. Devise exercises, that uses methods of communication which are appropriate for the motor vehicle environment, for example: • A short written form of communication • A situation which requires straightforward, oral communication Provide examples of an inappropriate personal appearance and body language and demonstrate how it communicates to others. Devise an activity which allows a self-assessment of the learners' current communication skills and record how to they can improve them.
Complete the learner worksheet	1.1-3.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 12 hrs		

UNIT REF: ELMV07	UNIT TITLE: INTRODUCTION TO WORKSHOP CLEANING AND MAINTENANCE

Level: Entry Level 3	Guided Learning (GL): 11 Hours
Overview: This unit will provide the knowledge and skills to clean a vehicle workshop. The learner will be able to identify suitable tools and methods of cleaning. The learner will also recognise the reasons for cleaning the work area and demonstrate how to leave them in a safe condition.	
Learning Outcomes:	
1. Know how to select the correct PPE when cleaning workshop areas **2. Know the reasons for cleaning and tidying the workshop** **3. Know tools and equipment which are used for cleaning the workshop**	

Subject	AC	Teaching Methods
Personal Protective Equipment	1.1	Discuss and record different workshop cleaning tasks and the PPE which is required. Devise activities which will aid the learners in matching appropriate PPE to cleaning tasks.
Workshop Cleaning and Tidying	2.1-2.2	Discuss and record the reasons why workshops must remain clean and tidy. Devise activities to highlight the likely hazards and risks which will result from an unclean and untidy workshop. Provide video, pictures or a workshop environment to observe where improvements may be made to cleaning and tidying.
Workshop Cleaning Tools and Equipment	3.1-3.2	Use online cleaning tool catalogues to show a range of tools and equipment. Devise activities which will aid the learners in identifying tools and equipment which are used during the cleaning of a workshop. Provide information and activities, which aid in identifying tools and equipment which have a specialist or specific task, for example: spillage kits.
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV13	UNIT TITLE: INTRODUCTION TO ENGINE COMPONENTS AND OPERATION

Level: Entry 3	Guided Learning (GL): 16 Hours
Overview: In this unit learners will investigate the main components of an engine and the operating principles of the four stroke internal combustion engine.	
Learning Outcomes:	
1. Be able to work safely **2. Know about four stroke internal combustion engines**	

Subject	AC	Teaching Methods
Be able to work safely	1.1	Use the correct PPE for the task. Demonstrate safe working method and practices when carrying out removal and refitting four stroke engine components. Students to use appropriate safety precautions and procedures during the removal and refitting of components. Observe students selecting and using PPE before commencing task and using it correctly during and after task completion.
Know about four stroke internal combustion engines	2.1, 2.2	Students to identify the main components of a simple four stroke engine. This could be done using simple disassembly of large components. Explain the four stroke cycle relating to the component parts and possibly using interactive video to show the operation. Have students identify what each components operation is and how it relates to each of the four stroke cycles.
Complete the learner worksheet	1.1-3.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 23 hrs		

UNIT REF: ELMV14	UNIT TITLE: INTRODUCTION TO LIGHT VEHICLE STEERING AND SUSPENSION SYSTEMS

Level: Entry 3	Guided Learning (GL): 15 Hours
Overview: In this unit the learner will find out about the principles of steering and suspension and how to carry out simple checks on these systems, following all relevant safety precautions.	
Learning Outcomes:	
1. Be able to work safely 2. Know about steering systems 4. Know about suspension systems	

Subject	AC	Teaching Methods
Be able to work safely	1.1	Use the correct PPE for the task. Demonstrate safe working method and practices when carrying out work on steering and suspension components. Students to use appropriate safety precautions and procedures during the checking and testing of components. Observe students selecting and using PPE before commencing task and using it correctly during and after task completion.
Know about steering systems	2.1-2.3	With a vehicle lifted on a ramp, indicated the main components of the steering system. Question the students and have them indicate the components on the vehicle. Using simple terms describe and show practically on the vehicle the function of the steering system. Also explain whilst demonstrating how the driver using the steering wheel turns rotary movement into linear movement. An explanation of the effects of gearing can also be related to the steering system and how driver's effort is reduced. An experiment with gearing and allowing the students to experience this would also relate the theory.
Know about suspension systems	4.1-4.2	Explain the functions of the suspension system. Visual aids could be used including video and practical demonstrations. With a vehicle lifted identify the main suspension components and ask students to repeat and identify components. Different types of suspension should be used to differentiate between the different types of suspension.
Complete the learner worksheet	1.1-5.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 19 hrs		

UNIT REF: ELMV15	UNIT TITLE: INTRODUCTION TO COMPONENT FITTING

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: In this unit the learner will learn how to remove and replace mechanical, electrical and trim components which are often required as part of other work carried out on motor vehicles		
Learning Outcomes:		
4. Know how to correctly remove and replace simple electrical system components		
Subject	**AC**	**Teaching Methods**
Know how to correctly remove and replace simple electrical system components	4.1-4.3	Explain the purpose and importance turning off switches, removing keys and informing others of work being carried out. Emphasise the safety aspects. Reinforce with questions to the students. Demonstrate the correct procedure for selecting the correct fuse for replacement. Have students identify various circuits, fuse locations, replace fuses and check operation of circuits. Demonstrate the correct disconnection and re-connection of a vehicle battery. Explain the importance of switching off electrical consumers, key removal, recording of key codes etc. Observe students carrying out the procedure safely and as instructed.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 20 hrs		

UNIT REF: ELMV16	UNIT TITLE: ROUTINE COOLING AND LUBRICATION SYSTEMS CHECKS

Level: Entry 3	Guided Learning (GL): 14 Hours	
Overview: In this unit learner will learn about cooling and lubrication systems and how to carry out simple checks on each type of system. Learners will all be required to observe the necessary Health and Safety requirements whilst working on each system.		
Learning Outcomes:		
2. Know about cooling systems 4. Know about engine lubrication systems		
Subject	**AC**	**Teaching Methods**
Know about cooling systems	2.1	Indicate the main liquid cooling system components. Individual components to be used to assist in identification. Relate these to components actually fitted to a vehicle
Know about engine lubrication systems	4.1-4.2	Explain the purpose of the lubrication system. Visual and interactive aid would assist in the explanation of the system. Identify lubrication system components and question students on each components identity and location
Complete the learner worksheet	1.1-5.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 17 hrs		

UNIT REF: ELMV17	UNIT TITLE: ROUTINE BRAKING SYSTEM CHECKS

Level: Entry 3	Guided Learning (GL): 13 Hours
Overview: In this unit the learner will learn about basic braking systems and checks required, following all relevant safety precautions.	
Learning Outcomes:	
2. Know about braking systems 4. Know about how to dispose of braking system components	

Subject	AC	Teaching Methods
Know about braking systems	2.1-2.2	Indicate the location of main braking system components on a vehicle. Individual components to be used to assist in identification. Relate these to components actually fitted to a vehicle. Students to identify components on vehicles
Know how to dispose of braking system components	4.1-4.2	Explain the correct method to dispose of brake pads and shoes. State how to dispose of brake fluid and explain how spillages should be cleaned up. The use of absorbent granules and spill kits should be explained. The methods for disposal should be explained that they meet the local environmental waste disposal requirements. Question students on the procedures.
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT) : 17 hrs		

UNIT REF: ELMV18	UNIT TITLE: ROUTINE WHEEL AND TYRE CHECKS

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: This unit introduces learners to the principles of wheels and tyres. It includes the identification of the wheels used on light vehicles and the different tyre types. The learner also covers the wheel and tyre terminology and markings.		
Learning Outcomes:		
2. Know how wheels are constructed **3. Know tyre terminology**		
Subject	**AC**	**Teaching Methods**
Know how wheels are constructed	2.1	Present and discuss the various types of vehicle wheels available, highlight the reasons for the various types and their uses to include: sports, road and 4x4. Use loose wheels as resources to demonstrate the individual constructions and checks that should be taken, support activity with use of videos/pictures to illustrate the type of damage wheels can be subjected to. Sectioned wheels could also show a good outline of wheel construction. Design and use a learner work sheet for the identification and checks to be carried out on wheels. Describe and demonstrate the removal and replacement process of road wheels.
Know tyre terminology	3.1	Present and discuss the different manufacturers markings featured on tyres, highlight the reasons and purposes of the markings which should be linked with manufacturers guidelines and legislation. Use a selection of different tyre types and sizes for learners to identify markings and construction types, use of a sectioned tyre would be useful. Highlight and discuss the tyre terminology and checks that need to be carried out on vehicle tyres: pressures, measuring tread depths, damage, speed and load ratings.
Complete the learner worksheet	1.1-5.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: ELMV19	UNIT TITLE: ROUTINE VEHICLE CHECKS

Level: Entry 3	Guided Learning (GL): 15 Hours
Overview: This unit introduces learners to the principles, requirements and procedures for carrying out weekly and monthly vehicle checks. It includes the location and identification of appropriate maintenance specifications and procedures. The unit also introduces learners to the principles of carrying-out fundamental vehicle maintenance tasks. The unit is only concerned with common tools and equipment that do not require detailed training and does not include specialist commercial equipment.	
Learning Outcomes:	
1. Know vehicle systems and components that require routine checks **2. Know the information and equipment required for vehicle maintenance checks**	

Subject	AC	Teaching Methods
Systems and components requiring routine checks	1.1-1.2	Highlight and describe vehicle systems and components that require routine maintenance to include: • engine compartment; battery, engine oil, engine coolant, drive belts, fluid levels • wheels and tyres • lighting system • driver and passenger area; seating, seat belts, horn, instruments, warning lamps • external components; door hinges, locks, mirrors, bodywork, paintwork • transmission; inspect for leakage Highlight and describe maintenance requirements for vehicle systems to include: • check engine oil condition and level • check engine oil filter condition and for leakage • checking and top-up fluid levels; windscreen washer, battery, clutch and brake fluid • checking and adjusting drive belts (alternator and water pump) • tyre condition, pressures and tread depth • operation of vehicle lamps and indicators • operation and condition of seat belts and seats • operation of instruments, horn and warning lamps • lubrication of door hinges and locks • operation and condition of door mirrors • condition of bodywork and paintwork • checking and top-up transmission levels Confirm learners' understanding of systems and components requiring maintenance, including names and terminology with the use of Q&A and quizzes.

Information and equipment required for vehicle maintenance checks	2.1-2.2	Highlight and describe information required for vehicle maintenance to include: • vehicle make, model and VIN number • correct engine oil specifications • engine coolant specifications • brake and clutch fluid specifications • specifications for new components or fluids, bulbs, transmission lubricants Obtaining appropriate service and maintenance information Confirm learners' understanding of information required for vehicle maintenance, including names and terminology with the use of Q&A and quizzes. Highlight and describe the use of tools and equipment required and used during vehicle maintenance to include: • tyre tread gauge • tyre inflator • tyre pressure gauge • car jack or trolley jack • disposable cloths Confirm learners' understanding of tools and equipment used during vehicle maintenance, including names and terminology with the use of Q&A and quizzes.
Complete the learner worksheet	1.1-3.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: ELMV20	UNIT TITLE: ROUTINE VEHICLE MAINTENANCE PROCESSES AND PROCEDURES

Level: Entry 3	Guided Learning (GL): 17 Hours
Overview: This unit introduces learners to the principles of routine vehicle maintenance on vehicles with 4 wheels or more. It requires learners to know the tools and equipment that would be used during routine vehicle maintenance. It also covers the procedures and methods that must be used to ensure this is carried out effectively. The final outcome of the unit is concerned with the learner being able to safely and correctly carry out routine vehicle maintenance.	
Learning Outcomes:	
2. Know vehicle components and systems that require routine maintenance **3. Know routine maintenance requirements for vehicle systems and components**	

Subject	AC	Teaching Methods
Know vehicle components and systems that require routine maintenance	2.1-2.2	Identify the vehicle systems and components on a modern vehicle that require routine maintenance. Using a vehicle, demonstrate to the students each area that requires maintenance and explain each check. Introduce a logical approach to carrying out the checks using a check sheet within an acceptable time. Observe and question students on their knowledge of the systems and carrying out the checks.
Know routine maintenance requirements for vehicle systems and components	3.1	Have the students use appropriate data sources for different vehicles to identify the maintenance requirements of specific vehicles. From the data question students and ask them to select the range of tools and equipment that would be required to carry out vehicle maintenance. Observe students selecting appropriate tools and using them correctly.
Complete the learner worksheet	1.1-3.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 22 hrs		

UNIT REF: ELMV21	UNIT TITLE: VEHICLE DRIVELINE MAINTENANCE

Level: Entry 3	Guided Learning (GL): 17 Hours	
Overview: This unit introduces the learner to vehicle transmission systems and covers the basic identification of the major items of the unit and their function. It also allows the learner to use workshop manuals to locate specific data.		
Learning Outcomes:		
2. Know about vehicle drivelines **3. Know about vehicle gearboxes**		
Subject	**AC**	**Teaching Methods**
Vehicle Drivelines	2.1	Study light vehicle drivelines and the component parts making up the drive chain. Use animations/videos and prepare PowerPoint presentations and interactive quizzes to enhance learning. Learners may also benefit from a demonstration with a sectioned gearbox or driveline components laid out as a resource, so that they can track each stage of the driveline process to gain understanding of the system and its operation. Explain the layout of vehicle driveline components using a demonstration vehicle on a ramp/lift so learners can access it, and ask learners to identify major components in a driveline along with stating a brief explanation of their function.
Vehicle Gearboxes	3.1	Identify the main components found in basic manual and automatic gearboxes using sectioned gearboxes. Identify component positions using vehicles on lifts, ramps etc and ask learners to identify each component and briefly state their function. Use videos to show how energy from the engine is transmitted into motion using a gearbox. Confirm learner understanding with use of Q&A.
Complete the learner worksheet	1.1-4.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 22 hrs		

UNIT REF: ELMV22	UNIT TITLE: SPARK IGNITION SYSTEM MAINTENANCE

Level: Entry 3	Guided learning (GL): 13 Hours	
Overview: In this unit the learner will find out about the main components of vehicle ignition systems, their construction and correct usage including the carrying out of practical activities regarding inspection and maintenance.		
Learning Outcomes:		
2. Know about vehicle ignition systems		
Subject	**AC**	**Teaching Methods**
Ignition System Components	2.1-2.2	Discuss and identify the main components of a distributor-less spark ignition system. Use individual components to demonstrate ignition system principles and allow learners to inspect them to become familiar. Explain the function of each component. Ask learners to correctly name components and briefly state their function. Use videos that illustrate a working ignition system/spark plug firing - or presentations to enhance learning and facilitate understanding. Identify the layout of each component within a vehicle engine compartment. Confirm learners' understanding of component names and terminology with the use of Q&A or quizzes.
Complete the learner worksheet	1.1-3.5	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: ELMV23	UNIT TITLE: VEHICLE LIGHTING SYSTEM MAINTENANCE

Level: Entry 3	Guided Learning (GL): 15 Hours
Overview: This unit introduces learners to the principles of vehicle lighting systems, components and operation. It covers identifying the main components used in vehicle lighting systems. The unit also introduces learners to the fundamental operating principles of vehicle lighting systems and components.	
Learning Outcomes:	
2. Know about vehicle lighting system components **3. Know how vehicle lighting systems operate**	

Subject	AC	Teaching Methods
Vehicle Lighting System Components	2.1-2.2	Discuss and identify the main components of a vehicle lighting system. Use individual components such as lamp units and bulb clusters to demonstrate their function and allow learners to inspect the resources to become familiar. Use videos or presentations to enhance learning and facilitate understanding. Identify the layout of each lighting system component on a vehicle. Ask learners to then identify each component by using show and tell exercises, or with the use of pre-printed laminated cards. Confirm learners' understanding of component names and terminology with the use of Q&A. Prepare a simple quiz with questions on bulb types, lighting colours/legality and identification.
Replacing lighting system components	3.1-3.4	Discuss basic faults and fault finding procedures that are specific to lighting systems ie non-working lamps, blown fuse replacement, along with any service requirements of the lighting system. Ask learners to display knowledge by answering basic questions on lighting system troubleshooting. Learners are then to attempt simple fault finding on a basic lighting circuit laid out on a workbench before moving on to a system fitted to a vehicle to attempt a similar exercise (tutor to prepare faults on the circuit beforehand – use only basic faults ie blown bulbs – at this stage). Show a variety of bulb types to learners and ask them to identify them – and their uses and application - correctly. Assess learner progress by setting up basic lighting faults and asking them to identify and repair them.
Complete the learner worksheet	1.1-3.4	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 20 hrs		

UNIT REF: ELMV24	UNIT TITLE: INTRODUCTION TO SPARK IGNITION FUEL SYSTEMS

Level: Entry 3	Guided Learning (GL): 12 Hours	
Overview: In this unit the learners will find out about the main components and the operating principles of vehicle fuel systems including routine maintenance procedures required for effective engine operation.		
Learning Outcomes:		
2. Know the components of spark ignition fuel systems		
Subject	**AC**	**Teaching Methods**
Spark Ignition Fuel System Components	2.1-2.2	Discuss and identify the main components of a spark ignition fuel system. Use individual components to demonstrate their function and encourage learners to inspect the resources to become familiar. Ask learners to state the names and basic function if major components. Use videos or presentations to enhance learning and facilitate understanding. Identify the layout of each fuel system component by using a demonstration vehicle. Use a prepared basic diagram of a fuel system to explain how the fuel is taken from the tank, to the engine and then burnt to produce kinetic energy. Use prepared laminated cards to allow each learner to identify fuel system components on a vehicle. Use a range of vehicles to compare the layout of components and differentiate between makes and models. Confirm learners' understanding of component names and terminology with the use of Q&A. Prepare a simple quiz with questions on fuel systems and include diagrams for the learner to label, and use this as underpinning knowledge.
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 16 hrs		

UNIT REF: ELMV26	UNIT TITLE: INTRODUCTION TO WORKSHOP EQUIPMENT

Level: Entry 3	Guided Learning (GL): 14 Hours

Overview: This unit introduces learners to motor vehicle workshop equipment. It includes general workshop equipment that would be used in light vehicle, heavy vehicle or motor cycle workshops. It encompasses the identification of the equipment and its specific use. It is only concerned with equipment that does not require detailed training to operate.

The aim of this unit is to develop the learners understanding of fundamental use of workshop equipment, their identification and their safe use and handling. Learners can then apply their understanding to all aspects of working within a motor vehicle workshop.

Learning Outcomes:

1. Know the common motor vehicle workshop equipment
3. Know the examples of measuring equipment used in a motor vehicle workshop

Subject	AC	Teaching Methods
Knowledge of Motor Vehicle Hand Tools	1.1	Study the various common hand tools that are found in motor vehicle workshops. Identify them with learners, and discuss their uses. Demonstrate how each hand tool is used, and cover any safety precautions as necessary. Use a wide range of hand tools as listed in the guidance document. Discuss and identify the main items of equipment that are found in motor vehicle workshops. Show real examples of a range of equipment such as air lines, tyre inflators, electrical apparatus – parts washers, drills, and specialist tools such as tracking gauges and mobile waste oil drainers. Ensure learners can identify each piece of equipment by using laminated cards for learners to label equipment, or through the use of a quiz. Give a demonstration of lifting a vehicle using a trolley jack and axle stands. Task learners with repeating the demonstration and observe carefully to ensure learners follow correct procedures, vehicles and equipment is not damaged, and that lifting and lowering of the vehicle is performed safely.
Knowledge of Motor Vehicle Workshop Measuring Equipment	3.1	Prepare a selection of common workshop measuring equipment and allow learners to inspect and familiarise themselves with each item. Check learner understanding by asking them to state the name of each item and give a brief description of the function. Prepare a selection of basic measuring tasks such as brake disc and pad measurement, tyre tread measurement, spark plug gapping – to enhance learning. Confirm learner understanding by preparing a work sheet featuring a range of tools and ask the learner to correctly label each item. Use this evidence as underpinning knowledge in preparation for assessment.
Complete the learner worksheet	1.1-3.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs

UNIT REF: ELMV27	UNIT TITLE: INTRODUCTION TO VEHICLE CONSTRUCTION AND BODY SHAPES

Level: Entry 3	Guided Learning (GL): 14 Hours
Overview This unit will provide the knowledge to recognise light vehicles, their construction, layouts and body types	
Learning Outcomes:	
1. Know about engine arrangements and drive line configurations 2. Know about body types for a range of vehicles 3. Know the names of the main body parts found on light vehicles 4. Know the common types of materials used in vehicle construction	

Subject	AC	Teaching Methods
Engine arrangements and driveline configurations	1.1-1.2	Present and study the various common arrangements for front, mid and rear engine layouts. Present and study the various common arrangements for front, rear and four wheel drive transmission layouts. Show real examples of a range of vehicles equipped with the ranges of engine and driveline layouts above, design handout for learners to complete to support activity. Demonstrate real vehicles on a ramp in a workshop environment.
Body types for a Range of Vehicles	2.1	Present and study the various vehicle body types which are in common use, saloon, estate, hatchback, coupe, convertible, MPV, 4x4. Design and produce a handout for learners to complete identifying the typical uses of type of vehicle. Observe learners carrying out these tasks and ensure that they are familiar with each type of vehicle. Check and confirm learners' awareness and understanding through the use of Q and A, quizzes or interactive presentations.
Main Body Parts Found on Light Vehicles	3.1-3.2	Present the variety of components commonly found on vehicle bodies, highlight the different names for the same component where applicable. Design and produces handouts for learners to complete as a practical exercise, observe learners completing the task. Check and confirm learners have a good awareness and understanding through the use of Q and A, quizzes or interactive presentations.
Materials and constructions of common body types associated with light vehicles	4.1	Prepare a selection of common materials used in vehicle construction: Alloy, Carbon fibre, Steel, Fiberglass. Discuss their properties and have the learner identify the typical uses of each type of material. Learners can work in small groups to research types of body construction: Monocoque, Ladder chassis, Partly-supported frames (sub frames), Space frame. On completion of research task, learners to feedback in a presentation. Check learner understanding by asking them to state the name of each item and give a brief description of where the materials are found in vehicle construction. Confirm learner understanding by preparing a work sheet featuring a range of materials / body types and ask the learner to correctly label each item. Use this evidence as underpinning knowledge in preparation for assessment.
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 Hours		

UNIT REF: ELMV28	UNIT TITLE: INTRODUCTION TO RECOGNISING VEHICLE MATERIALS

Level: Entry Level 3	Guided Learning (GL): 9 Hours	
Overview This will provide the knowledge to recognise common materials used in the manufacture of vehicles. The learner will identify different materials and be able to state the advantages and disadvantages of the materials.		
Learning Outcomes:		
1. Know the advantages and disadvantages of materials used in vehicle construction **2. Know how to identify vehicle interior and exterior panel and trim materials**		
Subject	**AC**	**Teaching Methods**
Advantages and Disadvantages of Materials used in Vehicle Construction	1.1	Provide visual examples of plastic and low carbon steel vehicle panels and trims. Discuss and facilitate the learners in recording the advantages and disadvantages of steel and plastic materials, such as weight comparisons, corrosion resistance, shaping, joining and strength on impact.
Identifying Vehicle Interior and Exterior Panel and Trim Materials	2.1-2.2	Explain and provide visual examples or video demonstrations of how to use different methods of identifying vehicle interior and exterior panel and trim materials. Provide worksheets and supplementary materials to record how to carry out simple identification procedures. These may include: a magnetic test, identification codes, the appearance and properties of the materials. Devise worksheets to record the different types of vehicle interior and exterior materials, which are found on a vehicle. The materials may include: • rubber • leather • cloth/fabric • plastic • glass
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 12 hrs		

UNIT REF: ELMV29	UNIT TITLE: INTRODUCTION TO BODY REPAIR TOOLS AND EQUIPMENT

Level: Entry Level 3	Guided Learning (GL): 11 Hours	
Overview: This unit will enable the learners to identify a range of body repair tools and equipment, which will be used within other body repair units, throughout this qualification.		
Learning Outcomes:		
2. Know how to prepare body repair tools and equipment for use		
Subject	**AC**	**Teaching Methods**
Preparing Body Repair tools and Equipment	2.1-2.2	Provide visual examples of body repair tools and equipment. Use and display online catalogues to show different varieties of body repair tools and equipment. Develop materials to aid the identification of body repair tools and their purpose. Use training videos and manufacturers' instructions to outline how to carry out checks and prepare body repair tools and equipment for use. These may include: • checking for safe use • kitemarks • examining and inspect for faults • techniques and tips for using tools • holding, gripping and securing whilst working Arrange a demonstration by a manufacturer and provide learners with a worksheet to record how to prepare and use body repair tools and equipment.
Complete the learner worksheet	1.1 - 3.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV30	UNIT TITLE: INTRODUCTION TO PAINT REFINISHING TOOLS AND EQUIPMENT

Level: Entry Level 3	Guided Learning (GL): 11 Hours	
Overview: This unit will enable the learners to identify a range of paint refinishing tools and equipment, which they will use within other paint refinishing units, throughout this qualification.		
Learning Outcomes:		
2. Know how to prepare and use paint refinishing tools and equipment for use		
Subject	**AC**	**Teaching Methods**
Preparing and using Paint Refinishing Tools and Equipment.	2.1-2.3	Use industry related and manufacturers' videos to aid the identification of paint refinishing tools and equipment and their purpose. Arrange a refinishing company representative to provide talks and demonstrations of their equipment. Use manufactures instructions in conjunction with support materials to assist the learners in recording how to carry out checks and prepare paint refinishing tools and equipment for use. This may include: • checks for safe use • kitemarks • examine and inspect for faults Discuss and record how to prepare and use paint refinishing tools and equipment.
Complete the learner worksheet	1.1– 4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 16 hrs		

UNIT REF: ELMV32	UNIT TITLE: INTRODUCTION TO BODY AND PAINT MATERIALS

Level: Entry Level 3	Guided Learning (GL): 11 Hours
Overview: This unit will enable the learners to identify a range of body and paint materials, which they will use within other body repair and paint refinishing units, throughout this qualification.	
Learning Outcomes:	
1. Know how to select and wear the correct PPE and work safely 2. Know how to prepare body and paint materials for use	

Subject	AC	Teaching Methods
Preparing Body and Paint Materials	2.1-2.2	Discuss and demonstrate how to locate product technical data sheets. Provide a glossary of terms associated with body and paint materials. Devise activities to aid the learners in interpreting product instructions and technical data sheets. Use manufacturers' product training videos or media to show how to prepare body and paint materials for use. Arrange a presentation and demonstrations from body and paint material / consumable suppliers. Facilitate group work to highlight how to prepare the materials stated in the evidence requirements. Record the feedback provided by the groups.
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV33	UNIT TITLE: INTRODUCTION TO METAL PREPERATION

Level: Entry Level 3	Guided Learning (GL): 10 Hours	
Overview: This unit will provide the learners with knowledge and skills to prepare an A4 sized, unpainted panel, to accept body filler and primers. Preparation of the steel surface will be achieved by using hand sanding methods.		
Learning Outcomes:		
2. Know the correct tools, equipment and consumables associated with metal preparation **3. Know how to prepare a steel panel surface**		
Subject	**AC**	**Teaching Methods**
Tools, Equipment and Consumables for Metal Preparation	2.1-2.2	Discuss and record the importance of selecting the appropriate tools and equipment for preparing a steel panel. Facilitate group work and activities which will determine the suitability of tools and equipment from a visible selection (actual tools or quality images). Provide a definition and examples of 'consumables'. Devise matching exercises which will enable the learners to link a description to an image of a consumable. Discuss the types and grades of abrasives in conjunction with visual aids. Facilitate group activities, which will aid in the learners in identifying abrasive grades, for example 'guess the grit' - the learners will attempt to predict the grade of abrasive by visual examination and touch. Produce activities which will enable the learners to match an abrasive grade to an application.
Metal Surface Preparation	3.1-3.4	Use paint manufacturers training videos / media to demonstrate: • the cleaning process • how to select the correct tools and equipment • how to select the correct consumables and abrasive • the stages of preparing a steel panel Devise and facilitate activities to identify the logical process of preparing a steel panel, for example, produce written descriptions of the stages of preparation and instruct the learners to arrange them in the correct order. Provide an example of a cleaning agent / degreasing product data sheet. Use the data sheet to devise an activity to promote the correct use of the cleaning product. Provide visual examples of minor surface defects which may be evident after preparing a steel panel, for example: minor dents, creases, surface scratching and evidence of rust. Provide worksheets or images which the learners can use to identify and label any evident minor surface defects.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 13 hrs		

UNIT REF: ELMV34	UNIT TITLE: INTRODUCTION TO MINOR DENT REMOVAL

Level: Entry Level 3	Guided Learning (GL): 10 Hours	
Overview: This unit will provide the learners with knowledge and skills to remove a minor dent in an A4 size, steel panel using basic hand tools.		
Learning Outcomes:		
2. Know how to identify the panel material 3. Know the correct tools to repair dents		
Subject	**AC**	**Teaching Methods**
Techniques to Identify Panel Material	2.1	Provide visual aids and experiments to demonstrate how to identify a steel body panel or material. Engage the learners in experimental learning with appropriate strength magnets or magnetic paint thickness gauges and a variety of sample materials. Record and discuss the results. Facilitate activities, where the learners compare low carbon steel to other materials in terms of weight, appearance and degrading, such as rusting. Provide visual comparisons of rusting steel to the oxidising of an aluminium surface. Outline and record the importance of identifying vehicle materials, prior to commencing any tasks. Devise activities which will identify the consequences of failing to identify the different types of vehicle panel materials.
Correct Tools to Repair Dents	3.1-3.2	Provide enough hammers and dollies so the learners can view and examine them in small groups. Highlight, discuss and record the purpose of a planishing hammer and a basic dolly (toe dolly or general purpose dolly). Provide instructional videos to demonstrate how to use a planishing hammer and dolly to include: • how to grip and hold the tools • shaping metal • supporting the panel • raising the damaged area • carrying out different hammering techniques Devise activities, which engages the learners in producing a practical process chart for removing a minor dent using a hammer and dolly. Discuss and outline the defects which may occur, if the process is carried out using poor or inaccurate 'panel skills'.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 13 hrs		

UNIT REF: ELMV35	UNIT TITLE: INTRODUCTION TO MIXING AND APPLYING BODY FILLER

Level: Entry Level 3	Guided Learning (GL): 8 Hours
Overview: This unit will provide the learners with knowledge and skills to be able to mix and apply body filler to a minor dent (5-10mm in diameter) on a flat, A4 size steel panel. The learner will use mixing tools, consumables and follow manufacturer's instructions.	
Learning Outcomes:	
2. Know about body filling tools, equipment and consumables 3. Know how to prepare before applying body filler	

Subject	AC	Teaching Methods
Tools, Equipment and Consumables	2.1-2.2	Use product manufacturers training media to illustrate the essential tools, equipment and consumables which are used during the mixing and the application of body filler. Devise activities to aid the identification of a variety of tools, equipment and consumables which are used during mixing and the application of body filler. This may include matching a statement to an image.
Preparation and Applying Body Filler	3.1-3.3	Use images and media to display the process and methods of preparing a steel panel to accept body filler. Provide activities that aid the learners in identifying the correct preparation process to include: • cleaning methods • abrasive selection and reasons for choices • metal and preparation techniques • sanding, abrasives and cleaning • protecting surfaces Facilitate group work and engage the learners in activities which are designed to recognise the correct and incorrect surface preparation techniques. Highlight the health and safety considerations for example, the heat produced during the curing stage of the body filler. Use the manufacturer's media to demonstrate the techniques involved in mixing and applying body filler. Provide manufacturer's instructions / data and facilitate the learners in group work to interpret how to mix body filler. Outline the consequences of failing to follow the manufacturer's instructions and record the results. Devise activities which will assist the learners in recognising how to eliminate the wasting of materials and how to dispose of waste materials, safely and legally.
Complete the learner worksheet	1.1-5.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 11 hrs		

UNIT REF: ELMV36	UNIT TITLE: INTRODUCTION TO SHAPING BODY FILLER

Level: Entry Level 3	Guided Learning (GL): 11 Hours	
Overview: This unit will provide the learners with the knowledge and skills to shape body filler, which has been applied to a minor dent (5-10mm in diameter) on a flat, A4 size, steel panel. The learners will perform hand sanding techniques, in conjunction with a small selection of abrasives.		
Learning Outcomes:		
2. Know about tools and equipment associated with shaping body filler 3. Know how abrasives are graded and the order which they are used 4. Know how to shape body filler		
Subject	**AC**	**Teaching Methods**
Tools and Equipment	2.1	Provide the learners with visual aids or access to images of tools and equipment which is appropriate when sanding and shaping body filler. Devise activities which allow the learners to make tool and equipment selections for the task stated in the evidence requirements. Facilitate group work and issue activities which will assist the learners in identifying the process for setting up sanding and extraction equipment.
Abrasive Grades and Selection	3.1-3.2	Provide abrasive manufacturers information, images and videos to demonstrate a small range of abrasives, which are required to meet the evidence requirements. Use the information to highlight the abrasive fixing methods, such as Velcro. Provide visual examples to demonstrate the difference between coarse abrasives and fine abrasives. Design and issue activities that prompt the learners to identify suitable tasks for specific abrasive grades and the order of their use. Facilitate the learners in discussing and recording the implications of using the incorrect abrasive to shape body filler.
Techniques in Shaping Body Filler	4.1	Use the manufactures' training materials and media to demonstrate the techniques in sanding and shaping body filler to include: • guide coats • the correct positioning of the block to the panel surface • the correct motion / sanding technique • choosing the correct shape sanding block • how to check the repair visually and by 'feel' • how to determining high and low spots • how to determine when to apply more than one layer of body filler Devise group activities which will aid the learners in producing process charts or posters to assist them in shaping and sanding body filler in a workshop situation. Outline, discuss and record the consequences of failing to accurately shape body filler.
Complete the learner worksheet	1.1-6.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV38	UNIT TITLE: INTRODUCTION TO APPLYING AEROSOL PRIMERS

Level: Entry Level 3	Guided Learning (GL): 10 Hours
Overview: This unit will provide the learners with the knowledge to identify etch and high-build primers. They will also be able to recognise their specific uses and develop the skills to apply them safely. The primer will be applied to an A4 sized steel panel in a vertical position.	
Learning Outcomes:	
2. Know about primers **3. Know how to use aerosol primers**	

Subject	AC	Teaching Methods
Know about Primers	2.1-2.3	Discuss and use paint manufacturers' data sheets combined with activates to identify the difference between high-build and etch primer. Highlight and discuss the difference in film thickness of each primer. Devise task sheets and activities to outline where high-build and etch primers are appropriate to use.
Using Aerosol Primers and Aerosol Application Techniques	3.1	Provide and use the paint manufactures' safety and preparation instructions to devise activities, which will aid the learners in identifying and recording how to: • mix the paint • check and locate the nozzle • adjust the fan pattern - if applicable Provide the paint manufactures pictograms and the main technical words. Facilitate the learners in labelling and defining them. Use paint manufactures media / videos to demonstrate the aerosol application techniques such as speed, distance and 'flash off' periods. Devise activities which aid the learners in identifying the cause of application defects such as, drips and runs. Use images and paint manufacturers' data sheets to outline the appropriate methods of drying, both high-build and etch primers. Facilitate, discuss and record the basic differences in: • curing /drying methods • curing /drying times of the two primers
Waste Disposal Requirements	3.2	Discuss and record the correct disposal procedures for waste materials and reasons for separating waste. Devise a true or false activity to highlight how specific waste must be disposed of and the consequences of failing to do so.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV39	UNIT TITLE: INTRODUCTION TO PREPARING PRIMER TO ACCEPT TOPCOAT

Level: Entry Level 3	Guided Learning (GL): 9 Hours
Overview: This unit will enable the learners to develop the skills and knowledge to prepare a high-build aerosol primer to accept topcoat. The area of preparation is an A4 sized, steel panel and will be prepared using hand sanding methods. The learners will follow manufactures' instructions and use appropriate abrasives, guide coats and cleaning materials during the preparation process.	
Learning Outcomes:	
2. Know about the tools, equipment and consumables used in the preparation process 3. Know about abrasives that are appropriate for successful preparation 4. Know about guide coats	

Subject	AC	Teaching Methods
Tools, Equipment and Consumables for Preparation	2.1-2.2	Provide visual aids of the tools, equipment and consumables which are involved in the preparation of an aerosol high-build primer, which may include: **Tools:** • sanding blocks - rubber and extracted **Equipment:** • extraction equipment / units • degreaser dispensers • paper / towel dispensers **Consumables:** • cleaning / degreaser materials • wipes • guide coat Facilitate group work and activities which will aid the learners in selecting the correct tools, equipment and consumables. Use paint manufacturers' training videos / media to demonstrate the checking and setting up of the equipment.
Types and Grades of Abrasives	3.1-3.2	Discuss and record the purpose of abrasives. Provide a small selection of different types of abrasives and the relevant grades to complete the preparation of the aerosol primer. Use the paint manufacturers information / instructions to devise an activity which will aid the learners in identifying the correct type and grades of abrasives which is required.
Guide Coats	4.1	Using the paint manufacturers' preparation instructions, create an activity, which will enable the learner to demonstrate their knowledge of the correct preparation process. The process may include: the use of a guide coat, the sanding process, the cleaning process and how to assess the standard of the preparation.
Complete the learner worksheet	1.1-6.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 12 hrs		

UNIT REF: ELMV40	UNIT TITLE: INTRODUCTION TO MASKING MATERIALS AND TECHNIQUES

Level: Entry Level 3	Guided Learning (GL): 10 Hours
Overview: This unit will enable the learners to develop the skills and knowledge to use basic masking materials and techniques. On completion of this unit the learners will be able to mask out equal sections on an A4 sized steel panel.	
Learning Outcomes:	
2. Know about using masking tape and paper 3. Know the causes of masking faults	

Subject	AC	Teaching Methods
Masking Materials	2.1-2.2	Provide visual examples and different varieties of masking materials. Discuss and record the purpose of masking materials to include: • protecting areas from damage during preparation • protecting areas from overspray Use training videos and media to demonstrate how to use masking tapes and papers and how to avoid wasting the materials. Devise activities which will aid the learners in identifying how to use masking tapes and papers. Discuss and facilitate activities, which will aid the learners in identifying the techniques that are used when masking basic shapes and removing masking tape, this may include: keeping the tape taut, knowing how to smooth out creases, securing the tape, pulling the tape from the roll and lining up edges. Outline and encourage the learners to record the problems which may be caused by using masking tape on uncured surfaces and surfaces where the paint adhesion is suspect. Discuss and provide visual examples of how to remove masking tape at an angle to the surface and how to check the surface during the removal process.
Masking Faults	3.1-3.2	Devise and provide worksheets which will enable the learners to record common masking faults and identify their causes, these may include: • adhesion issues caused by a dirty or wet surface and incorrect tape storage • paint / primer creep caused by the edges of the tape not being pressed to the surface, contaminated tape, contaminated panels and overheating of the tape
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 13 hrs		

UNIT REF: ELMV41	UNIT TITLE: INTRODUCTION TO APPLYING AEROSOL TOPCOATS

Level: Entry Level 3	Guided Learning (GL): 9 Hours
Overview: This unit will enable the learners to develop the knowledge and skills to recognise direct gloss topcoat. The learners will be able to apply the topcoat to a small primed steel panel, no greater than an A4 sized area, in a vertical position. **The learners will follow manufactures' instructions to aid the completion of the unit.**	
Learning Outcomes:	
2. Know how to clean surfaces before applying topcoat **3. Know how to apply aerosol direct gloss topcoat**	

Subject	AC	Teaching Methods
Panel Surface Cleaning	2.1-2.2	Provide visual examples of the different types of cleaners, tools and consumables, which are used when cleaning a primed panels or surface, these may include: • water-based and solvent cleaners • suitable wipes / cloth • tack cloths • safe use of uncontaminated compressed air Use cleaning / degreasing product data sheets to devise activities which promotes their correct use.
Applying Aerosol Topcoat	3.1	Use the paint manufacturers' information to produce activities which will aid the learners to identify the process of applying aerosol, direct gloss paints, these may include: number of coats, the distance from the panel, overlapping of coats, applying adequate pressure to the nozzle, how to apply the first coat, time between coats and how to apply the second coat. Provide visual examples of appropriate drying equipment and encourage the learners to record the drying times and the method of drying a specific topcoat. Outline, discuss and record the consequences of force drying and overheating aerosol topcoats Provide images of common paint application faults such as: drips, runs, sags, dirt inclusions and 'paint spatter'. Facilitate the learners in identifying the names and causes of the faults.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 13 hrs		

UNIT REF: ELMV42	UNIT TITLE: INTRODUCTION TO BASIC PAINT DEFECTS

Level: Entry Level 3	Guided Learning (GL): 9 Hours	
Overview: This unit will enable the learners to develop the knowledge and skills to identify two minor paint application faults. The learners will be able to state the causes of the defects and rectify them both, using appropriate methods. Note: The paint defects are minor in terms of size and amounts and will be carried out on an A4 size, steel panel. The faults can be rectified in primer or topcoat finishes, however, any restoration of gloss levels or the application of compound must be carried out using hand methods.		
Learning Outcomes:		
2. Know the cause and rectification process of minor paint defects		
Subject	**AC**	**Teaching Methods**
Cause of Minor Paint Defects and the Rectification Processes	2.1-2.2	Discuss and devise group activities which will assist the learners in identifying a small selection of minor paint application defects to include: runs, sags and dirt inclusions. Use paint manufacturers information (defect guides) to devise worksheets / activities, which will assist the learners in identifying the cause and rectification process of the stated defects. Facilitate the learners in matching a rectification process to a paint defect. Causes of the following defects may include: **Runs and Sags** • excessive build-up/application of paint products • insufficient flash-off periods • application techniques - distance from the surface **Dirt inclusions** • insufficient surface cleaning • the contaminated of PPE / overalls and the working environment Rectification processes may include: **Runs / sags and dirt inclusions** • how to check the paint or primed surface is cured • the type of abrasive and order of use • examples of appropriate grades: P1200, P1500, P2000, P3000 • precautions when sanding - 'breaking through' **Restoration of gloss levels to include:** • rubbing compound grades and selection • locating manufactures' instructions • cloth types and selection • application methods – by hand • surface cleaning methods and techniques
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 12 hrs		

UNIT REF: ELMV43	UNIT TITLE: INTRODUCTION TO IMPROVING THE FINAL FINISH

Level: Entry Level 3	Guided Learning (GL): 7 Hours	
Overview: This unit will provide the learners with the knowledge and skills to use a rubbing compound and wax polish to enhance the finish of a direct gloss topcoat. The learners will follow manufactures' instructions and work on an A4 sized, painted steel panel using hand methods only.		
Learning Outcomes:		
2. Know the purpose of materials to improve paint finishes		
Subject	**AC**	**Teaching Methods**
Materials to Improve Paint Finishes	2.1-2.3	Devise activities which aids the learners in identifying the purpose of a rubbing compound and a wax polish, to include: **Rubbing compound** • restoring gloss after removing dirt inclusions • restoring gloss on aged paint finishes **Wax polish** • improving the shine • protection • cleaning Use product manufactures video and media to demonstrate how to: • prepare surfaces prior to the application of rubbing compound and wax polish • apply and remove the rubbing compound and wax polish Devise group activities which will enable the learners to discuss and record: • different surfaces where the products may be used • the different types of cloth which can be used • the methods of using the product • how to apply and remove the products (by hand)
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 10 hrs		

UNIT REF: ELMV44	UNIT TITLE: CLEANING A VEHICLE EXTERIOR

Level: Entry Level 3	Guided Learning (GL): 9 Hours
Overview: This unit will enable the learner to develop their knowledge and skills in recognising products, tools and equipment used in cleaning the exterior of a vehicle. The learner will be able to hand wash and dry a vehicle using the appropriate methods. Note: Use of pressure washing equipment is not required for the completion of this unit.	
Learning Outcomes:	
2. Know the importance of prewashing vehicles prior to using hand washing methods 3. Know precautions to be taken when using exterior cleaning products	

Subject	AC	Teaching Methods
Prewashing Vehicles	2.1-.2.2	Use valeting product manufacturers' media and videos to demonstrate the importance of prewashing a vehicle before using hand methods to agitate / sponge the cleaning agents. Discuss the reasons for prewashing a vehicle and devise worksheets to record the information and the learners' feedback. Use visual aids / diagrams or images to discuss and highlight areas on a vehicle, which hold dirt and mildew, these may include: window seals, inner wheel arches and low areas, such as sill panels. Use visual aids / diagrams or images to discuss and highlight areas on a vehicle, which may require the Technician to be cautious, for example, air intakes and induction vents. Use videos and visual aids to highlight the different 'settings / positions' of hose pipe nozzles / guns and where the different settings may be appropriate, for example, a 'jet' setting under the wheel arches. Devise an activity which will aid the learners in identifying the appropriate nozzle settings for different areas of the vehicle exterior.
Precautions To Be Taken When Using Exterior Cleaning Products	3.1-3.3	Use valeting manufacturers' media, videos and online catalogues to demonstrate the process of cleaning a vehicle exterior and the precautions to take which will prevent damage to the vehicle, for example, remove jewellery to prevent paintwork damage and rinsing sponges' regularly. Facilitate group activities which will aid the learners in identifying and recording how to prepare and use the tools, equipment and the cleaning products. Devise an activity which will aid the learners in identifying mixing ratios of cleaning products and complete straightforward mixing ratio calculations and conversions. Using products that are to be used for the practical task, identify PPE equipment to be worn and the actions to be taken in the events of contact with harmful chemicals. Devise activities and worksheets which will aid the learners in identifying an appropriate sequence and methods of cleaning and drying a vehicle exterior.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 12 hrs		

UNIT REF: ELMV45	UNIT TITLE: CLEANING A VEHICLE INTERIOR

Level: Entry 3	Guided Learning (GL): 11 Hours

Overview: This unit introduces learners to the principles of interior vehicle valeting. It includes the safe use of tools and equipment and cleaning materials for the internal surfaces of vehicles. The unit is only concerned with simple valeting tools and equipment that do not require detailed training and does not include specialist commercial equipment. Similarly, only common cleaning materials are covered and the unit does not include specialised cleaning products often used by commercial valeting businesses. The aim of this unit is to develop the learners understanding of simple valeting processes and the use of common cleaning equipment and materials associated with Interior cleaning vehicles.

Learning Outcomes:

2. Know commonly used interior valeting materials, tools and equipment and how they are used correctly and safely
3. Know precautions to be taken when using interior cleaning products

Subject	AC	Teaching Methods
Common Materials, Hand Tools and Equipment used for Valeting an Interior	2.1	Highlight the appropriate selection of materials for cleaning various surfaces and materials: upholstery cleaner, shampoo, glass cleaner, dashboard cleaner, carpet shampoo. Provide and demonstrate examples of tools and equipment used: sponges and buckets, cleaning cloth, upholstery brush, and vacuum cleaner. Use Q&A & quizzes to check on learners knowledge and understanding on appropriate selection of materials.
Preparation and using Valeting Tools	2.2	Provide demonstrations of safe and correct use of valeting tools. Highlight risks of liquids and electricity whilst cleaning, ensuring sponges and cleaning cloths are free of grit and dirt prior to cleaning, soaking and squeezing chamois leather for drying surfaces.
Precautions to be Taken when using Cleaning Products	3.1-3.3	Demonstrate and discuss using products and safety sheets the hazards and risks associated with using cleaning products, highlight the precautions that need to be taken to avoid injury or harm to include: electrical safety, over use of cleaning materials and liquids, COSHH risks. Demonstrate and highlight links to HSE website for learners to research and report on risks with associated cleaning products and materials. Using products that are to be used for the practical task, identify PPE equipment to be worn and the actions to be taken in the events of contact with harmful chemicals. Use Q and A to check on learner's progress and understanding, provide additional support for learners who may require it.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs

UNIT REF: ELMV46	UNIT TITLE: INTRODUCTION TO MOTORCYCLE ENGINE COMPONENTS AND OPERATION

Level: Entry 3	Guided Learning (GL): 16 Hours	
Overview: In this unit learners will investigate the main components of an engine and the operating principles of the four stroke internal combustion engine		
Learning Outcomes:		
2. Know about four stroke internal combustion engines		
Subject	**AC**	**Teaching Methods**
Four stroke Cycle	2.1	Present and discuss the 4 stroke internal combustion cycle. Use animations/videos to show the sequences. Introduce learners to suitable Web sites to support learning and understanding. Learners may also benefit from a demonstration with a sectioned 4-stroke engine, so that they can track each stage of the process to gain understanding. Use group work activity to promote interactivity between groups, facilitate learning. Use devised work sheets for learners to complete to check their understanding and knowledge.
Component Identification	2.2	Identify and describe the function of the main engine components using component parts, engines and motorcycles. Devise and use handouts for learners to complete the identification of the main parts. Confirm learner understanding with use of Q&A, quizzes and feedback.
Complete the learner worksheet	1.1-3.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 21 hrs		

UNIT REF: ELMV47	UNIT TITLE: INTRODUCTION TO MOTORCYCLE STEERING AND SUSPENSION SYSTEMS

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: In this unit the learner will find out about the principles of steering and suspension and how to carry out simple checks on these systems, following all relevant safety precautions.		
Learning Outcomes:		
2. Know about steering systems 3. Know about suspension systems		
Subject	**AC**	**Teaching Methods**
Steering Systems	2.1-2.2	Explain the function of motorcycle steering systems. Demonstrate the function using a motorcycle. Allow learners to observe the function of the steering system by looking around the system on a motorcycle. Identify the main components on a steering system and use a variety of different motorcycle types for the task. Use videos of the steering system in different areas eg racing, commuting, trials etc.
Suspension Systems	3.1-3.2	Explain the function of motorcycle suspension systems. Demonstrate the function using a motorcycle. Allow learners to observe the function of the suspension system by looking around the system on a motorcycle. Identify the main components on a suspension system and use a variety of different motorcycle types for the task. Use videos of the suspension system in different areas eg racing, commuting, trials etc. Discuss how the suspension system absorbs shock from road surfaces and how this protects the rider/passenger as well as the integrity of the motorcycle.
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: ELMV48	UNIT TITLE: INTRODUCTION TO MOTORCYCLE COMPONENT FITTING

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: In this unit the learner will learn how to remove and replace mechanical, electrical and trim components which are often required as part of other work carried out on motorcycles.		
Learning Outcomes:		
3. Know how to correctly remove and replace simple electrical system components		
Subject	**AC**	**Teaching Methods**
Removing and Replacing Simple Electrical Components	3.1-3.3	Study the correct methods of electrical isolation before removing and refitting basic electrical components. Allow learners to carry out the task and observe/track performance. Study the identification of a defective fuse and how to select the correct type for replacement. Learners to practice the task by locating blown fuses and replacing, and operating the (now) functional circuit to demonstrate a successful repair. Learners to practice electrical isolation procedures by removal/refitting of light units and battery, following correct procedure to disconnect and reconnect the motorcycle battery. Learners to demonstrate their understanding of safe and correct electrical isolation.
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 19 hrs		

UNIT REF: ELMV49	UNIT TITLE: MOTORCYCLE ROUTINE COOLING AND LUBRICATION SYSTEM CHECKS

Level: Entry 3	Guided Learning (GL): 14 Hours	
Overview: In this unit the learner will learn about cooling and lubrication systems and how to carry out simple checks on each type of system. Learners will all be required to observe the necessary Health and Safety requirements whilst working on each system.		
Learning Outcomes:		
2. Know about cooling systems 4. Know about engine lubrication systems		
Subject	**AC**	**Teaching Methods**
Cooling System Checks	2.1	Study the motorcycle cooling system and its function. Identify major components using engines, motorcycles and individual components. Explain the basic operation of the water pump, radiator and thermostat. Demonstrate the correct methods to check coolant level and top up. Take a sample of the coolant and measure the freezing point. Learners to practice the above tasks and record data. Demonstrate checking a coolant system for leaks. Allow learners to investigate potential leaks on various motorcycles and become familiar.
Lubrication System Checks	4.1-4.2	Study the motorcycle lubrication system and its function. Identify major components using engines, motorcycles and individual components. Allow learners to identify components with the use of 'show and tell' activity. Explain the basic operation of the lubrication system and it's cleaning, cooling and lubricating functions. Demonstrate the correct methods to check engine oil level and top up. Learners to repeat the task and source the correct oil type from technical data. Demonstrate checking a lubrication system for leaks. Learners to practice.
Complete the learner worksheet	1.1-5.3	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 17 hrs		

UNIT REF: ELMV50	UNIT TITLE: MOTORCYCLE ROUTINE BRAKING SYSTEM CHECKS

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: In this unit learners will learn about the main components of motorcycle braking systems and simple maintenance tasks.		
Learning Outcomes:		
2. Know about braking systems 4. Know how to dispose of braking system components		
Subject	**AC**	**Teaching Methods**
Braking System Identification	2.1-2.2	Present and discuss using visual aids braking system components and their application and uses. Learners are to identify major components on a motorcycle braking system. Use a variety of motorcycles and individual components. Learners to identify components using labels and Q&A to check on their progress. Use worksheets that illustrate the main braking components and task learners with labelling diagrams. Present and discuss the routine maintenance checks to be completed; use visual aids to support presentation. Identify brake system wear indicators for brake pads and refer to technical information to support judgements. Demonstrate correct operation of brake lamps, highlight adjustment of switches which affect light operation. Demonstrate the sequence and precautions to be observed when checking and topping up brake fluids.
Disposal of braking system components	4.1-4.2	Describe how to dispose of brake friction materials and brake fluids taking into account local legislation, environmental and safety considerations. Separation, safe storage and the recognised disposal methods of components and fluids. Show links to HSE website for further study and highlight legislation.
Complete the learner worksheet	1.1-4.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 17 hrs		

UNIT REF: ELMV51	UNIT TITLE: MOTORCYCLE ROUTINE WHEEL AND TYRE CHECKS

Level: Entry 3	Guided Learning (GL): 15 Hours	
Overview: In this unit learners will learn about the common terms and construction methods associated with wheels and tyres, removal and replacement methods of motorcycle wheels and how to complete basic maintenance checks using appropriate tools and equipment.		
Learning Outcomes:		
2. Know the motorcycle wheel types 3. Know the motorcycle tyre terminology.		
Subject	**AC**	**Teaching Methods**
Motorcycle Wheel Construction	2.1	Present and discuss the various types of motorcycle wheels available, highlight the reasons for the various types and their uses to include: Road, trials, Motocross and road racing. Use loose wheels as resources to demonstrate the individual constructions and checks that should be taken, support activity with use of videos/pictures to illustrate the type of damage wheels can be subjected to. Sectioned wheels could also show a good outline of wheel construction. Design and use a learner work sheet for the identification and checks to be carried out on wheels. Describe and demonstrate the removal and replacement process of road wheels.
Tyre Types and Terminology	3.1	Present and discuss the different manufacturers markings featured on tyres, highlight the reasons and purposes of the markings which should be linked with manufacturers guidelines and legislation. Use a selection of different tyre types and sizes for learners to identify markings and construction types, use of a sectioned tyre would be useful. Highlight and discuss the tyre terminology and checks that need to be carried out on motorcycle tyres: pressures, measuring tread depths, damage, speed and load ratings.
Complete the learner worksheet	1.1-5.2	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: ELMV52	UNIT TITLE: INTRODUCTION TO MOTORCYCLE CONSTRUCTION

Level: Entry 3	Guided Learning (GL): 11 Hours	
Overview: In this unit the learner will learn about motorcycle construction		
Learning Outcomes:		
1. Know about the types of motorcycle available 2. Know the names of the main parts found on motorcycles 3. Know the position of the controls on scooter and conventional motorcycles		
Subject	**AC**	**Teaching Methods**
Motorcycle Types	1.1	Study the various types of motorcycle available. Use videos/pictures and (if possible) 'real' machines, to allow learners to inspect them to clarify understanding. Use internet to demonstrate the different uses motorcycle are purchased for, eg. Sport, commuting and custom. Also give examples of different rider clothing/accessories etc to differentiate between motorcycle types.
Motorcycle Main Parts and Panels	2.1-2.2	Present and discuss the various panels fitted to faired motorcycles using real examples, provide learners with loose components. Discuss and identify the main parts that make up a naked motorcycle. Use a variety of motorcycles to enable learners to become familiar with main parts. Develop and use worksheets that illustrate the panels and the main parts found on motorcycles. Use Q&A and worksheets to confirm learners understanding.
Motorcycle Controls	3.1	Demonstrate and discuss the various controls found on a range of motorcycles. If possible demonstrate the working of controls, or use videos if this is not possible. Use a variety of motorcycles to allow learners to familiarize themselves and differentiate between motorcycle types and their controls. Track learner progress with the use of Q&A. Allow learners to work in pairs or small groups and use peer mentoring to reinforce learning.
Complete the learner worksheet	1.1-3.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 15 hrs		

UNIT REF: ELMV53	UNIT TITLE: ROUTINE MOTORCYCLE CHECKS

Level: Entry 3	Guided Learning (GL): 14 Hours	
Overview: This unit introduces learners to the principles of routine motorcycle maintenance checks. The learner will also perform routine motorcycle maintenance checks using a range of tools and equipment associated with the task.		
Learning Outcomes:		
2. Know the motorcycle systems and components that require routine maintenance checks **3. Know the information and equipment required for routine motorcycle maintenance checks**		
Subject	**AC**	**Teaching Methods**
Motorcycle Systems and Components that Require Routine Maintenance Checks	2.1	Present and discuss using suitable resources such as service books and schedules to highlight motorcycle systems and components that require routine maintenance to include: battery, engine oil, engine coolant, fluid levels. Checks to wheels and tyres, lighting system, horn, instruments, warning lamps, external components; mirrors, bodywork and paintwork. Lubrication and adjustment of: chain, stand, controls, throttle, brake levers, footbrake, handlebars.
Basic Routine Maintenance Requirements for Motorcycle Systems	2.2	Present and discuss the maintenance requirements for vehicle systems using suitable resources to include: check engine oil condition and level, check engine oil filter condition and for leakage, checking and top-up fluid levels; battery, clutch and brake fluid, checking and adjusting drive belts (if fitted), tyre condition, pressures and tread depth, operation of vehicle lamps and indicators, operation of instruments, horn and warning lamps, operation and condition of mirrors, condition of bodywork and paintwork, chain tension and lubrication, stand lubrication.
Information Required for Motorcycle Maintenance	3.1	Highlight the types of information required such as: vehicle make, model and VIN number, correct engine oil specifications, engine coolant specifications, brake and clutch fluid specifications, tyre pressures, specifications for new components or fluids, bulbs, transmission lubricants. Learners to locate and use motorcycle information to access manufacturer's maintenance specifications to complete the practical activity.
Tools and Equipment Required for Motorcycle Maintenance	3.2	Demonstrate the correct use of tools and equipment required for motorcycle maintenance to include: tyre tread gauge, tyre inflator, tyre pressure gauge, disposable cloths. Highlight the hazards and risks associated with the tools used during maintenance. Learners to demonstrate safe and appropriate use of the tools whilst completing the practical activity. Use Q&A throughout activities to check on learners progress and understanding.
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 17 hrs		

UNIT REF: ELMV59	UNIT TITLE: CLEANING A MOTORCYCLE

Level: Entry 3	Guided Learning (GL): 9 Hours	
Overview: This unit introduces learners to the basic principles of motorcycle valeting. It includes the safe use of common tools, equipment, cleaning materials and techniques that are used for all surfaces of a motorcycle.		
Learning Outcomes:		
2. Know the commonly used valeting tools and equipment and how they are used correctly and safely 3. Know the commonly used cleaning materials and how they are used correctly and safely		
Subject	**AC**	**Teaching Methods**
Safe and correct use of common valeting tools and equipment	2.1-2.2	Introduce learners to the common types of cleaning tools and equipment used in motorcycle valeting. A selection of tools and equipment to be identified and practically used by the students and to demonstrate the correct, safe use, include COSHH. Pre use of tools and equipment is to be demonstrated with practical interaction and practice. Power hose systems to be identified and the precautions of use. Use visual aids / diagrams or images to discuss and highlight areas on a motorcycle, which may require the Technician to be cautious, for example, air intakes and electrical items. Use videos and visual aids to highlight the different 'settings / positions' of hose pipe nozzles / guns and where the different settings may be appropriate, for example, a 'jet' setting under the mudguards and engine. Devise an activity which will aid the learners in identifying the appropriate nozzle settings for different areas of the motorcycle.
Safe and correct use of cleaning materials	3.1-3.2	Use valeting manufacturers' media, videos and online catalogues to demonstrate the process of cleaning a motorcycle and the precautions to take which will prevent damage, for example; remove jewellery to prevent paintwork damage and rinsing sponges' regularly. Facilitate group activities which will aid the learners in identifying and recording how to prepare and use the tools, equipment and the cleaning products. Devise an activity which will aid the learners in identifying mixing ratios of cleaning products and complete straightforward mixing ratio calculations and conversions. Identify the hazards associated with motorcycle valeting. Use the correct PPE for the tasks. Demonstrate the safe working method and practices specific to valeting. An explanation of cleaning materials and products to be demonstrated to the students, include COSHH. Methods of use, disposal and precautions to be included.
Complete the learner worksheet	1.1-4.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 13 hrs		

UNIT REF: L1MV19	UNIT TITLE: SPARK IGNITION ENGINE SYSTEM COMPONENTS AND OPERATION

Level: Level 1	Guided Learning (GL): 22 Hours	
Overview: This unit introduces learners to the principles of SI engine systems, components and operation and includes the requirements for carrying out routine engine maintenance		
Learning Outcomes:		
2. Know SI engine systems and components 3. Understand how SI engines operate		
Subject	**AC**	**Teaching Methods**
Components of Spark Ignition Engine Systems	2.1-2.3	Present and discuss the spark ignition 4 stroke internal combustion cycle. Use animations/videos to show the sequences. Introduce learners to suitable Web sites to support learning and understanding. Learners may also benefit from a demonstration with a sectioned 4-stroke engine, so that they can track each stage of the process to gain understanding. Use group work activity to promote interactivity between groups, facilitate learning. Use devised work sheets for learners to complete to check their understanding and knowledge. Devise questions and answers activities, group work, and use of ILT.
Operation of Spark Ignition Engines	3.1-3.4	Present and identify spark ignition engine system operation through, presentations, use of video`s and demonstrations. Comparison between 2 & 4 stroke engines and 4 stroke valve operation using sectioned engines and video`s. Learners to complete handout on engine operation. Practical demonstration using gas analyser to identify constituents of exhaust gas Devise questions and answers activities, group work, and use of ILT.
Complete Learner Worksheet	1.1-4.3	Advise and coach the learners to complete the worksheet and supplement it with additional information and handouts.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 30 hrs		

UNIT REF: L1MV44	UNIT TITLE: MOTORCYCLE FUEL SYSTEM MAINTENANCE

Level: Level 1	Guided Learning (GL): 21 Hours	
Overview: This unit provides the learner with an introduction to the knowledge and skills in motorcycle fuel system components, their operation and associated maintenance tasks.		
Learning Outcomes:		
1. Know about the hazards connected with working on motorcycle fuel systems. **2. Know the main components of motorcycle fuel systems.**		
Subject	**AC**	**Teaching Methods**
Hazards Connected with Working on Motorcycle Fuel Systems	1.1-1.2	Identify typical hazards associated with working on fuel systems: fire hazards, fuel vapours, running engines in confined spaces, inhaling fumes from fuels and skin irritation. Identify safe systems of work when working on fuel systems: storage of fuels, skin protection, exhaust extraction and location of fire extinguisher. Observe safe working practices by learner, use Q&A where appropriate and provide feedback on safe practices.
Main Components of Motorcycle Fuel Systems.	2.1-2.2	Discuss and identify the main components of motorcycle fuel systems, both carburettor and fuel injection. Use individual components to demonstrate their function and encourage learners to inspect the resources to become familiar. Ask learners to state the names and basic function of the main components. Use videos or presentations to enhance learning and facilitate understanding. Identify the layout of each fuel system component by using a demonstration motorcycle. Use a prepared basic diagram of a fuel system to explain how the fuel is taken from the tank, to the engine and then burnt to produce mechanical energy. Use prepared laminated cards to allow each learner to identify fuel system components on a motorcycle. Use a range of motorcycles to compare the layout of components and differentiate between makes and models. Confirm learners' understanding of component names and terminology with the use of Q&A. Prepare a simple quiz with questions on fuel systems and include diagrams for the learner to label, and use this as underpinning knowledge. Describe and identify inspection, maintenance and adjustment requirements to fuel systems and components through, presentations, handling of components, use of video`s and demonstrations. Devise questions and answers activities, group work, use of ILT where possible.
Complete Learner Worksheet	1.1-4.1	Advise and coach the learners to complete the worksheet and supplement it with additional information and handouts.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 29 hrs		

UNIT REF: L1MV47	UNIT TITLE: ELECTRICAL FOUNDATION SKILLS

Level: Level 1	Guided Learning (GL): 21 Hours

Overview: **This unit introduces learners to the principles of vehicle electrical systems, components and operation. It covers identifying the main components used in vehicle systems and the main electrical principles and terminology. The unit also introduces learners to the fundamental operating principles of vehicle electrical systems and components. The final outcome of the unit is concerned with the learner being able to interpret simple electrical circuits and to create their own simple vehicle lighting circuit.**

Learning Outcomes:

1. Know how the correct PPE required when working with electrical systems
2. Know about vehicle electrical systems and electrical principles

Subject	AC	Teaching Methods
Know the correct PPE required when working with vehicle electrical systems	1.1	Present and discuss with learners the requirements for the correct PPE when working on electrical systems, these can include gloves, goggles, overalls.
Main electrical systems and components on a modern vehicle	2.1	Present and discuss the main electrical systems on a modern vehicle, use presentation, Video and Web sites on main architecture. Learners to investigate all the major electrical components used in modern vehicles using handout aids to assist the learners. Learners to describe the purpose of each component and any personal safety actions that need to be taken when working on these systems. Use handouts and Q&A session to check on learner's knowledge and understanding.
Simple vehicle electrical principles and laws	2.2	Present, discuss and use visual aids to demonstrate how magnet fields can be observed and are generated by magnets and wire. Highlight the laws of magnetism and their influence they have when poles are put together. Apply magnetism to a motor/ generator rules, apply to a vehicle system. Demonstrate how resistance creates a by-product of heat and then how we use this in a vehicle (lamps heating element) Demonstrate the actions of chemical effect: use lemons as battery to demonstrate chemical effect displaced by a battery.
Main electrical units of measurement	2.3	Present and discuss with learners the different components that make up electrical principles. Demonstrate electric circuits and components that make up a simple circuit, Highlight and calculate simple calculations using Ohms law, learners to complete handout. Outline the dangers of working with electricity, presentation needs to include volts, amps, ohms and watt's. Use handouts and Q&A to check on learners knowledge and understanding, provide extra support where required.
Common electrical symbols	2.4	Present and discuss the various types of electrical symbols related to systems and circuits in the automotive industry. Learners to plan an electrical circuit using cards, they can then use these to build circuits to gain understanding of their operation in an electrical circuit.
Complete Learner Worksheet	1.1-4.1	Advise and coach the learners to complete the worksheet and supplement it with additional information and handouts.

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 29 hrs

UNIT REF: L1MV51	UNIT TITLE: VEHICLE PAINT PREPARATION

Level: Level 1	Guided Learning (GL): 13 Hours	
Overview: This unit will provide the learner with the knowledge and skills to prepare a previously painted steel surface using hand and machine sanding methods.		
Learning Outcomes:		
1. Know how to clean previously painted panels, before, during and after the preparation process 2. Know how to prepare a previously painted surface for the next stage of the repair process		
Subject	**AC**	**Teaching Methods**
Cleaning Previously Painted Surfaces	1.1-1.2	Facilitate group work activities that will assist the learners in identifying the tools and equipment which is required to clean a previously painted panel, prior to its preparation. The cleaning processes will include: prewashing and cleaning, removing water ingress from behind trims, drying the vehicle and the use of water and solvent-based degreasers. Devise activities in conjunction with paint manufactures' data sheets, which will aid the learners to recognise a small range of cleaning products for removing different contaminants, such as: brake dust, bird droppings, traffic film and road tar. Devise worksheets and activities which will assist the learners in identifying the correct cleaning agent which will remove a specific contaminant.
Surface Preparation	2.1-2.6	Devise activities which will aid the learner in locating information, methods and tests, which will aid in identifying the panel material, such as, vehicle researched repair methods and a simple magnet test. Discuss and provide visual examples / images of vehicle paintwork in various conditions and states. Devise activities which will enable the learners to identify what determines the different methods of preparation (see the unit content for examples). Use paint manufacturers' information and videos to demonstrate the tools and equipment which is required, when preparing a previously painted panel. Devise worksheets for recording the information. Record the learners' feedback from discussions regarding how to protect panels and trim which are not being prepared. Provide 'real' examples of the consequences of failing to protect panels and trim during the preparation processes. Use paint manufacturers training materials and videos to demonstrate sanding and paint preparation techniques. Facilitate group activities which will aid the learners in identifying different preparation techniques for a small range of situations, such as, the use of sanding blocks, 'feather edging', preparing intricate or awkward areas. Use abrasive manufacturers' information to devise activities which will enable the learners to identify the different types and grades of abrasives, which are required to prepare previously painted panels and remove minor chips or scratches. These may include: scuff pads / 'scotchbrite', liquid abrasives P240 - P500 grades, foam-backed abrasives, methods of extraction incorporated in the abrasive.
Complete the learner worksheet	1.1-5.1	Provide supplementary materials and handouts. Explain the requirements and layout of the worksheet.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 18 hrs		

UNIT REF: L1MV68	UNIT TITLE: REMOVE AND REPLACE INTERIOR AND EXTERIOR TRIM

Level: Level 1	Guided Learning (GL): 18 Hours	
Overview: This unit will provide the learner with the knowledge and skills to remove and replace vehicle interior and exterior trims.		
Learning Outcomes:		
1. Know a range of vehicle interior and exterior trims **2. Know the methods which are used to secure vehicle interior and exterior trims** **3. Know how to remove and refit vehicle interior and exterior trims**		
Subject	**AC**	**Teaching Methods**
Vehicle interior and exterior trims	1.1	Provide visual aids for a range of vehicle interior and exterior trims. Facilitate the learners in comparing the types of materials used to produce vehicle trims, encourage the learners to observe the appearance and texture of different trims. Design group activities which will aid the learners in naming the vehicle trims and identifying where they are located on a vehicle.
Methods of fixing and securing interior and exterior trims	2.1	Provide visual aids of a range of fastenings and clips which are used to secure vehicle trims. Design activities which will enable the learners to name trim fastenings and clips to include: • metal and plastic trim fixings / retainers • screws • nuts and bolts • locking devices - mechanical and chemical • metal and plastic rivets • rivet nuts • moulding trim clips • adhesive tapes • adhesive • cable clips and ties Design activities which will assist the learner in identifying which type of clips and fastenings are suitable for different trims. Discuss the advantages and disadvantages of different methods of fixing vehicle trims.
Removing and refitting interior and exterior trims	3.1, 3.2,3.3	Introduce the learners to using repair manuals, industry repair methods and exploded diagrams. Design activities which will enable the learners to locate trim fastenings and clips, prior to removing vehicle trims. Show videos and/or live demonstrations of the processes involved in the removal and refitting of vehicle trims. Discuss and facilitate the learners in recording the processes which are involved in removing and refitting vehicle trims. Facilitate the learners in identifying trims which are incorrectly fitted and aligned. Discuss the faults with the learners and aid them in recording the causes of the faults and how they can be rectified. Provide visual images of appropriate and inappropriate storage areas for removed vehicle trims. Design worksheets for the learners to record the requirements of an area which is intended to store removed and replacement vehicle trims.
Completing the learner worksheet	1.1-3.3	Provide supplementary materials to support the completion of the worksheet. Explain the layout of the worksheet and ensure the learners understand how to complete it.
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 26		