



**INSTITUTE OF THE
MOTOR INDUSTRY**

TEACHING PLAN

For use with

IMI Level 1 Award in Transport Maintenance

**Qual ID:
601/8753/0**

FOR ASSESSORS & QUALITY ASSURERS ONLY



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UNIT REF: L1MV01	UNIT TITLE: HEALTH AND SAFETY IN THE WORKPLACE
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Level: 1	Guided Learning (GL): 21 Hrs
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Overview: This unit introduces learners to the health and safety knowledge requirements when carrying out simple maintenance and repair tasks in the workplace. This unit covers the general requirements of health and safety in the workplace including personal responsibilities, common hazards and risks, manual handling, health and safety information, fire prevention and emergency evacuation procedures. Learners are required to complete a plan of the workplace highlighting the Health and Safety information, equipment and notices.

Learning Outcomes:

1. Know health and safety requirements and information used in the workplace
2. Know the safe manual handling techniques to be used in the workplace
3. Know the local legislation procedures associated with working in the workplace
4. Know about fire prevention and emergency procedures

Subject	AC	Teaching Methods
Health and safety requirements and information used in the workplace	1.1-1.4	<p>Present and discuss with learners their personal and others responsibilities, hazards and risks of working in the workplace, highlight the consequences of in appropriate behaviour, failing to recognise hazards and risks.</p> <p>Highlight safe working practices, the purpose, use and reviews of risk assessments in the workplace.</p> <p>Have learners inspect the workplace to identify and record the locations of health and safety information and notices.</p> <p>Create questions and quizzes to test learners understanding and knowledge.</p> <p>Use of setting up a workplace with recognised hazards will enable learners to demonstrate hazard awareness and associated risks.</p> <p>Use HSE Website for examples of accidents in the workplace caused through neglect and poor housekeeping.</p>
Safe manual handling techniques to be used in the workplace	2.1-2.2	<p>Present and discuss with learners the safe manual handling techniques, the types of equipment and their correct use to reduce the risk of personal injuries.</p> <p>Highlight the consequences of in not using the correct techniques and appropriate selection and use of equipment. Highlight safe working practices, the purpose, use and reviews of risk assessments in the workplace.</p> <p>Demonstrate to learners the practices of recognising and using appropriate techniques to move objects and components around the workplace to include:</p> <ul style="list-style-type: none"> • jacking equipment • cranes • hoists • chains, slings, chains and wire ropes • vehicle lifts and stands • skates and dollies • trollies and sack trucks <p>Use HSE Web site for guidelines and legislation regarding manual handling.</p>
Local legislation procedures associated with working in the workplace	3.1-3.2	<p>Present and discuss with learners the common main substances hazardous to health in the workplace including:</p> <ul style="list-style-type: none"> • liquids – petrol, diesel, oil, brake fluid, cleaners, paint, thinners • gases – exhaust, welding and heating equipment • solids – used and contaminated components <p>Highlight the types of control measures to reduce the risks of harm and injury when using these substances.</p> <p>Present and discuss with learners the appropriate methods to dispose of waste materials in the workplace including:</p> <ul style="list-style-type: none"> • waste oil and filters • old units and components • cleaning materials



		<ul style="list-style-type: none"> • volatile materials – petrol filters, petrol engine components • used vehicle body materials, paint, thinners <p>Highlight the legislation and the damage to the environment as a consequences of failing to dispose of materials in the correct manor.</p> <p>Use HSE Web site for guidelines and legislation regarding the disposal of waste materials, highlight prosecution cases to reinforce the importance.</p>
Fire prevention and emergency procedures	4.1-4.3	<p>Present and discuss with learners the reasons for having emergency and evacuation procedures to include:</p> <ul style="list-style-type: none"> • in the event of a colleague suffering an electric shock • in the event of a serious accident • sounding alarm • use of appropriate fire extinguisher • evacuation of premises <p>Use the workplace emergency and the evacuation procedure of the premises as part of learner's induction process, learners to record the key contacts.</p> <p>Present and discuss with learners the three elements to produce a fire and the use of appropriate fire extinguishers to tackle the various fires likely in the workplace including:</p> <ul style="list-style-type: none"> • liquids • solids • electrical <p>Use HSE Web site to highlight legislation and prosecution cases to reinforce the importance and awareness.</p>
Complete Learner Worksheet	1.1-5.3	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): 29 hrs		



UNIT REF: L1MV02	UNIT TITLE: LOCATING, INTERPRETING & USING TECHNICAL INFORMATION
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Level: Level 1	Guided Learning (GL): 12 Hrs
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Overview: This unit provides the learners with the basic knowledge in how to identify and access the technical information required to complete maintenance and repair activities. Learners will be expected to locate, interpret and use the technical information required for effective maintenance and repair procedures and activities.

Learning Outcomes:

1. Know where to find technical information
2. Know the different types and location of technical information
3. Know how to locate identification numbers on vehicles and components
4. Be able to access, interpret and use technical information

Subject	AC	Teaching and Learning Methods
Where to find technical information	1.1-1.2	Present and discuss the reasons for technicians to access and use current and accurate technical information during maintenance and repair activities. Identify a range of equipment and sources used to gather information. Service manuals, service publications, wall charts, micro-fiche, technical bulletins and computerised systems.
Different types and location of technical information	2.1-2.2	Present and discuss the various types of technical information sources available to the technician, to include advantages and disadvantages of each type: <ul style="list-style-type: none"> • Online workshop technical information sources • Independent garage repair schemes • Manufacturers online support services • Vehicle owners workshop manuals • Vehicle owners book Use group work for learners to research the various types available. Devise questions and quizzes to check on learner's knowledge and understanding.
locate identification numbers on vehicles and components	3.1-3.4	Demonstrate the typical locations and reasons for accessing: <ul style="list-style-type: none"> • Chassis / frame number • Vehicle registration number • Engine number • Component part numbers Learners to locate and interpret vehicle registration, engine and component numbers from a variety of locations on the vehicle to be repaired or serviced
Complete Learner Worksheet	1.1-4.2	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): 17 hrs



UNIT REF: L1MV04	UNIT TITLE: KNOWLEDGE RELATING TO AUTOMOTIVE FOUNDATION SKILLS
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Level: 1	Guided Learning (GL): 17 Hrs
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Overview: This unit will enable the learner to develop the knowledge for tools, equipment, measuring devices and materials used in simple repair, servicing, maintenance activities and the materials used in vehicle construction: Learning outcome 1 relates to the knowledge required when using a range of mechanical measuring and electrical equipment, locking and securing devices, hand tools and workshop equipment used within a workplace environment. Learning outcome 2 introduces the learners to the range of materials and their applications used in vehicle construction.

Learning Outcomes:

- 1. Know the basic tools, equipment and measuring devices used within a workplace environment**
- 2. Know the materials used in vehicle construction**

Subject	AC	Teaching Methods
Main units of measurement and measuring equipment related to repair and automotive environment.	1.1-1.2	<p>Present and discuss the common units of measurement and tools and equipment found in automotive repair, to include: Units of measurement</p> <ul style="list-style-type: none"> • Length, Area, Volume, Mass, Force, Velocity, Pressure, Temperature, Torque. <p>Measuring equipment</p> <ul style="list-style-type: none"> • Rule/Tape, Calliper, Feeler Gauge, Volume Measures, Vernier Calliper, Micrometer, Dial Gauges, Torque Wrenches, Multimeter, Pressure gauge <p>Use a variety of teaching and learning opportunities to enable learners use measuring equipment to measure common components / work areas, eg. Workshop length, width and volume calculations using a tape measure. Devise activities for learners to complete, provide extra support for those who may struggle.</p>
Basic principles of electrical circuits/ components and electrical measuring equipment.	1.3-1.4	<p>Present and discuss basic electrical circuits and component concepts. Build a simple lighting circuit using:</p> <ul style="list-style-type: none"> • Series and parallel circuits • Battery, wiring, switch and lighting bulb circuit <p>Introduce learners to: Voltage, Current and resistance terms. Use ohms law to calculate the current flowing in the circuit. Use electrical tools and measuring equipment to build and check for correct circuit operation.</p>
Locking and securing devices used in an automotive environment	1.5	<p>Present and discuss the common locking and securing devices used in the automotive industry, to include:</p> <ul style="list-style-type: none"> • Fixing devices; nuts, bolts and screws, • Screw threads, types and applications • Locking and securing devices; lock nuts, split pins, locking wire, tab washers, chemical thread locking <p>Devise activities and worksheets where learners can identify and record the use of different nuts, bolts and thread applications. Devising a practical activity using a range of components above would be beneficial in furthering learners knowledge and understanding.</p>
Common hand tools and workshop used in an automotive environment	1.6	<p>Present and discuss the common hand tools used in the automotive environment, to include:</p> <ul style="list-style-type: none"> • Files, hacksaw, hammers, screwdrivers, pliers, types of spanner, sockets, torque wrenches, feeler gauge, micrometer, punches, air drill, electrical hand drill, drill bits, vices, taps and dies, broken stud removers, <p>Demonstrate the use and care of the common tools. Devise activities where learners can use the tools above in a real life workshop situation.</p>



	1.7	<p>Present and discuss the workshop equipment used in the automotive environment, to include:</p> <ul style="list-style-type: none"> hydraulic jacks /scissor jacks, axle stands / paddock stands, pillar drills, air tools, vehicle lifts, cranes, hoists, dollies, skates <p>Demonstrate the use and care of the workshop equipment. Devise activities where learners can use the workshop equipment above in a real life workshop situation.</p>
Ferrous, non-ferrous and non-metallic materials, and their application in vehicle construction	2.1-2.2	<p>Present and discuss the reasons and the applications of the ferrous, nonferrous and non-metallic materials used in vehicle construction and components, including:</p> <ul style="list-style-type: none"> carbon steel, steel alloys, cast iron, aluminium, brass, copper, lead Glass, safety glass, reinforced plastic, Kevlar, rubber <p>Devise activities for learners to identify and record the various uses on a vehicle where these materials are used. Use Q&A supported with Quizzes' to check on learners knowledge and understanding.</p>
Common terms applied to the materials used in vehicle construction	2.3	<p>Present and discuss the common terms associated with metals and vehicle materials including:</p> <ul style="list-style-type: none"> Hardness, toughness, ductility, elasticity, tenacity, malleability, plasticity Tensile stress, compressive stress, yield stress, shear force <p>Devise activities for learners to identify and record the qualities of the various metals used on the range of vehicle components. Use Q&A supported with Quizzes' to check on learner's knowledge and understanding.</p>
Complete Learner Worksheet	1.1-2.3	<p>Advise and coach the learners to complete the worksheet and supplement it with additional information and handouts.</p>
Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 25 hrs		



UNIT REF: L1MV66	UNIT TITLE: MOVING LOADS AND VEHICLE LIFTING
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Level: 1	Guided Learning (GL): 15 Hrs
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Overview: This unit introduces the learner to the knowledge and skills essential for the safe working operations when manually lifting, moving loads and when using manual handling equipment. The unit also covers the use of vehicle lifting and securing equipment, learners are required to use effective and safe working practices whilst using this equipment.

Learning Outcomes:

1. Know the risks of manual handling and moving loads.
2. Know appropriate methods of lifting, moving and securing heavy loads.
3. Know safe manual handling procedures.

Subject	AC	Teaching Methods
Risks of manual handling and moving loads.	1.1-1.4	<p>Present and discuss with learners the PPE that should be worn when moving loads including:</p> <ul style="list-style-type: none"> • Safety boots, safety hat, overalls, safety gloves, reflective jacket/tabard. <p>Introduce learners to the HSE Web site where information and legislation on manual handling can be found, explain the reason and purpose of guidelines and legislation.</p> <p>Present and discuss with learners the local manual handling operating regulations and guidelines that individuals and employers need to follow.</p> <p>Highlight the typical risks of injury during lifting and moving to:</p> <ul style="list-style-type: none"> • Arms, legs and joints, slips, trips, and repetitive strain injuries of various sorts. <p>Present, discuss and demonstrate safe manual handling techniques, considerations to be taken before, during and when placing objects down.</p>
Methods of lifting, moving and securing heavy loads.	2.1-2.4	<p>Highlight the types of equipment employers must provide for moving heavy loads and the use of risk assessments by employees to reduce the risks of injury.</p> <p>Introduce learners to a range of lifting and moving equipment they are likely to use in their work environment, explain and demonstrate its correct use.</p> <p>Devise activities for learners to be able to select, secure and move objects and loads using the equipment and the techniques shown, including:</p> <ul style="list-style-type: none"> • use of PPE • safe working loads (SWL) lifting capacity • care when moving loads over uneven surfaces • appropriate selection of equipment for the task • avoiding obstructions and floor based obstacles- cables and leads • safe working environment for equipment being used • stability of loads whilst being moved • condition and well maintained equipment <p>Provide feedback where necessary to enable learners to be fully aware of the potential risks of injury or harm.</p> <p>Devise questions and answer activities to check on learners understanding and knowledge.</p> <p>Demonstrate the visual inspection checks to include:</p> <ul style="list-style-type: none"> • leaks and mechanical condition • physical damage • seized or broken components • correct operation of components • damaged wiring • cuts and frayed straps • cracks and bent structures



		<ul style="list-style-type: none"> certificates of conformity (insurance)
Know safe manual handling procedures.	3.1-3.3	<p>Discuss and demonstrate moving loads manually to include:</p> <ul style="list-style-type: none"> safe personal lifting limits use of PPE planning the lift adopting a safe position feet position where is the load going to will I need help with lifting the load removal of obstructions from packaging will I need to change grip in moving the load <p>Discuss and demonstrate lifting and moving loads using equipment to include:</p> <ul style="list-style-type: none"> working within the Safe Working Limits (SWL) of the equipment training and authorised to use mechanical equipment equipment condition follow safe procedures when using mechanical equipment informing others reporting of faults of equipment to authorised persons safe, secure and level ground loads will be transported across using equipment risk assessments <p>Discuss and demonstrate the methods and precautions to be taken when using lifting and supporting a vehicle to include:</p> <ul style="list-style-type: none"> inspect the floor jack or lift for fluid leaks before use using vehicle manufacturer specifications for vehicle weight. using manufacturer specifications for axle stand capacity. following correct procedure when using floor jacks and vehicle lifts ensure the vehicle is placed on a hard, level surface raising the vehicle using manufacturer specified lifting points when the vehicle is raised, it must be supported chock wheels before removing the jack use vehicle manufacturer specifications for vehicle weight. <p>Devise worksheets for the activities above for learners to complete as part of the learning process.</p>
Complete Learner Worksheet	1.1-5.1	Advise and coach the learners to complete the worksheet and supplement it with additional information and handouts.
<p>Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 22 hrs</p>		



UNIT REF: L1MV86	UNIT TITLE: THE RETAIL MOTOR INDUSTRY
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Level:1	Guided Learning (GL): 13 Hrs
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Overview: This unit will provide the learner with the knowledge of organisations within the retail motor industry, in addition to this, the learner will identify trade associations and how to qualify for professional registers.

Learning Outcomes:

- 1. Know vehicle repair organisations within the retail motor industry**
- 2. Know different trade associations**
- 3. Know the benefits of automotive professional registers**

Subject	AC	Teaching Methods
Repair organisations within the retail motor industry	1.1, 1.2, 1.3, 1.4, 1.5, 1.6	<p>Devise activities which highlights the different types of vehicle repair organisations within the retail motor industry.</p> <p>Discuss and provide examples of a basic structure of a vehicle repair business, assist the learners' in producing an organisational structure and discuss the reasons for the layout / structure.</p> <p>Compare a franchised dealership with an independent workshop and facilitate a discussion to include the differences between them and any advantages and disadvantages.</p> <p>Discuss the main procedures which are involved when receiving a vehicle for repair, provide worksheets for the learners to record the list of procedures.</p> <p>Discuss different methods of communication methods which are used in a vehicle workshop or dealership. Facilitate the learners in communication activities and record what communication methods are appropriate for specific situations.</p> <p>Provide examples of a range of information which is used in a vehicle repair environment. Discuss the different formats of information and devise activities which will aid the learners in identifying each one.</p>
Trade associations	2.1, 2.2	<p>Provide information on a range of trade associations and devise a straightforward research activity to locate information on an organisation.</p> <p>Facilitate the learners in feeding back information on trade associations. Discuss and record the benefits of trade associations</p>
Automotive professional registers	3.1,3.2, 3.3	<p>Provide information on, or arrange a guest speaker to discuss automotive professional registers, in addition to this promote how to qualify for professional registers and the benefits of them.</p> <p>Assist the learners' in joining trade organisations or qualifying for professional registers.</p>
Complete the learner worksheet	1.1 - 3.3	<p>Provide supplementary materials to support the completion of the worksheet.</p> <p>Explain the layout of the worksheet and ensure the learners understand how to complete it.</p>

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 14 hrs



UNIT REF: L1MV07	UNIT TITLE: PREPARATION FOR RIDING A MOTORCYCLE OR MOPED
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Level: 1	Guided Learning (GL): 7 Hrs
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Overview: This unit will provide the learner with the knowledge which learner riders will need to know before they begin to ride a motorcycle on a public highway. This includes applying for their first driving licence, becoming familiar with the Highway Code, arranging riding lessons and booking the riding test.

Learning Outcomes:

1. Know the process of applying for their first driving licence
2. Know the purpose of the Highway Code
3. Know the meaning of a sample of road safety signs
4. Know how to identify an approved training body school and instructors
5. Know the content of both the theory and practical riding tests

Subject	AC	Teaching Methods
Applying for a first driving licence	1.1-1.4	<p>Present and discuss the application process for a first driving licence to include:</p> <ul style="list-style-type: none"> • how to apply – various stages / process • provisional licence – restrictions, use of red L plates, no carrying of unqualified passengers and motorways etc. • requirements to qualify for a provisional licence – reasons for being prevented from riding • where to apply for a provisional licence • methods of application – post, online etc. • when / age to apply <p>Devise learner worksheets, use group work and question and answer activities to enable learners to use and research the DVSA Web site to locate the information.</p>
Purpose of the Highway Code	2.1-2.3	<p>Present and discuss the purpose of the highway code to include:</p> <ul style="list-style-type: none"> • why it is essential – help reduce road casualties • who it applies to - road users and pedestrians • legal implications in the Highway Code – may be prosecuted if disobeyed and used in evidence • content – information for road users, pedestrians, and road signs • formats: audiobook, app, paperback book, etc <p>Use group work tasks to cover AC 2.1-2.3 to enable learners to research the assessment criteria and present their findings back to the group. Facilitate the learners feedback and provide further details where required.</p>
Road safety signs	3.1	<p>Present and discuss the meanings of the different shapes and colours of road signs in use to include:</p> <ul style="list-style-type: none"> • shapes • colours • meanings • mandatory • warning • regulatory • speed limits <p>Devise and use Warning, Mandatory and Instruction signs where learners have to match the sign to the information. Use question and answer activities to check on learners understanding and knowledge, provide support where required.</p>
Approved training body school and instructors	4.1-4.2	<p>Present and discuss the preparation requirements and how to find an approved training body school and instructors to include:</p> <ul style="list-style-type: none"> • legal safety equipment for riding a motorcycle, crash helmet, visors and goggle safety standards approval • suggested PPE for riding a motorcycle • Compulsory Basic Training (CBT) , valid duration of CBT



		<ul style="list-style-type: none"> • CBT limits of engine capacity and power output restrictions (DL196) • driver and Vehicle Standards Agency • L plates rules – colour and positioning • finding riding lessons and instructors – display badges, pricing, offers, reputation and courses. • complaints about an approved instructor - Trading Standards Office and Citizens Advice Bureau (for poor service) Driver and Vehicle Standards Agency (for unacceptable behaviour and illegal instructors) • rules for practising with family and friends - see current rules for supervising learner riders <p>Use group work tasks to cover AC 4.1-4.2 to enable learners to research the assessment criteria and present their findings back to the group, for instance using the DVSA and training school providers Web sites to find the required information, facilitate the learners feedback and provide further details where required.</p>
Theory and practical riding tests	5.1-5.5	<p>Present and discuss the theory and practical motorcycle riding tests to include:</p> <p>Theory.</p> <ul style="list-style-type: none"> • how to book a test – indicate any additional needs or requirements prior to the test, for example dyslexia. • content of the test – timescale, format and practise material • how to locate a theory test centre – research methods, Government websites <p>Practical.</p> <ul style="list-style-type: none"> • booking the riding test – highlight any additional needs or requirements before the test • purpose of the test – ride safely in different road and traffic conditions, know the Highway Code and meet the standard required. • documents to take to the test – theory test certificate and driving licence • what happens during the test – timescale, manoeuvres, types of instruction, routes and know current riding standards • motorcycle rules and suitability if used during a riding test – correct documentation, meet the required speed limits, correctly fitted L plates, no warning lights permanently illuminated - check current requirements <p>Use group work tasks to cover AC 5.1-5.5 to enable learners to research the assessment criteria and present their findings back to the group, for instance using the DVSA Web site to find the required information, facilitate the learners feedback and provide further details where required.</p>
Complete Learner Worksheet	1.1-5.5	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): 10 hrs		



UNIT REF: L1MV08	UNIT TITLE: REDUCING RISKS WHEN DRIVING VEHICLES
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Level:1	Guided Learning (GL): 14 Hrs
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Overview: This unit is aimed at pre-learner drivers and novice drivers. The unit content will provide the learner with the knowledge and skills, which will aid in them in reducing risks by preparing the vehicle and taking responsibility for their behaviour when planning to learn to drive and driving vehicles.

Learning Outcomes:

1. Know different types of vehicle pre-use checks
2. Know the consequences of failing to carryout pre-use vehicle checks
3. Know the how to reduce risks when driving vehicles

Subject	AC	Teaching Methods
Pre-use vehicle checks	1.1, 1.2	<p>Discuss the importance of pre-use vehicle checks. Use video footage or images to show the types of checks which must be carried out. Facilitate the learners in groups to produce a list of pre-use checks.</p> <p>Provide vehicle support information to highlight the different types of fluid and coolants which need checking and adjusting. Use real vehicles, images or video footage to support how to top-up the fluid and coolant levels. Produce worksheets which support and record the processes.</p>
The consequences of failing to carry out pre-use vehicle checks	2.1	<p>Give examples of the consequences of failing to carry out pre-use vehicle checks and use straightforward scenarios to highlight the importance of meticulous checks. These will include:</p> <ul style="list-style-type: none"> • vehicle breakdowns • poor vision • accidents / collisions • fines and convictions • leaks • unpredictable vehicle handling <p>Facilitate the learners in completing and feeding back on the scenarios.</p>
How to reduce risks when driving vehicles	3.1	<p>Discuss and devise exercises which promote how to reduce risks when driving vehicles. Support the session with guest speakers, for example, road safety representatives.</p> <p>Record the main points of the session and make copies for the learners. Promote the idea of putting the lists in the learners own vehicle or a vehicle which they purchase in the future as a recap on how to reduce risks when driving.</p>
Complete the learner worksheet	1.1 - 3.1	<p>Provide supplementary materials to support the completion of the worksheet.</p> <p>Explain the layout of the worksheet and ensure the learners understand how to complete it.</p>

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 17hrs



UNIT REF: L1MV09	UNIT TITLE: INTRODUCTION TO MOBILE AUTOMOTIVE REPAIR TRADES
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Level:1	Guided Learning (GL): 10 Hrs
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Overview: This unit will provide the learner with the knowledge of different types of mobile vehicle repair services and their role within the automotive industry.

Learning Outcomes:

- 1. Know a range of automotive trades which carry out mobile repairs**
- 2. Know the benefits of mobile repair trades**
- 3. Know the limitations of mobile repair trades**

Subject	AC	Teaching Methods
Automotive trades which carry out mobile repairs	1.1, 1.2	Provide evidence of and discuss the variety automotive trades which carry out mobile repairs. Facilitate the learners in carrying out straightforward research (in groups) to highlight examples of the services which each of the trades provide. Discuss and record the feedback from each group. Arrange guest speakers to provide information on mobile repairs. Facilitate a question and answer session.
The benefits of mobile repair trades	2.1	Discuss and record the advantages of mobile repair services to include: <ul style="list-style-type: none"> • The customer seeing the repair taking place • The customer being able to communicate directly with the technician • The repair being carried out at a place convenient to the customer therefore, saving time and effort for the customer
The limitations of mobile repair trades	3.1	Discuss and facilitate group activities to highlight instances where a mobile repair service may not be recommended, this may include: <ul style="list-style-type: none"> • size and extent of the repair • suitability of the working environment • working space / area which is available • legal implications, for example fumes, noise or the location of the vehicle Record the results of the discussion. Assist the learners in researching the amount of job opportunities which are available in mobile repair trades.
Complete the learner worksheet	1.1 -3.1	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): 11hrs



UNIT REF: L1MV21	UNIT TITLE: AIR AND LIQUID COOLING SYSTEM COMPONENTS AND OPERATION
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Level: Level 1	Guided Learning (GL): 15 Hrs
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Overview: This unit introduces learners to the principles of engine liquid cooling and air-cooling components and operation. It covers identifying the main components used in liquid cooling and air-cooling systems and the purpose and function of these components. The learner also has to carry out practical activities of removing and refitting liquid cooling system components and testing it for leaks.

Learning Outcomes:

1. Know about engine liquid cooling and air-cooled systems
2. Know how engine cooling systems operate
4. Know about environmental considerations when disposing of waste materials

Subject	AC	Teaching and Learning Methods
Engine liquid cooling and air-cooled systems	1.1-1.2	<p>Present and discuss the purpose of the engine cooling system components: both liquid and air cooled systems, include:</p> <ul style="list-style-type: none"> • coolant – water and antifreeze mixture • radiator and radiator cap • thermostat • expansion tank • pipes and hoses • gaskets and sealing rings • water pump and drive belt • cooling fan – mechanical and electric • vehicle heater <p>Introduce a range of components through, presentations, handling of components, use of video`s and demonstrations on vehicles. Devise questions and answers activities, group work, and use of ILT where appropriate.</p>
Operation of Engines Cooling System	2.1	<p>Explain the operating principles of:</p> <ul style="list-style-type: none"> • conduction, convection and radiation principles • thermo-siphon principle • pressurised systems • radiator • radiator pressure cap • expansion tank • thermostat • mechanical and electric fans • fan • heat exchangers • air flow ducting • cooling fins <p>Use presentations, video`s and demonstrations of components to demonstrate the concepts of operation. Devise questions and answers activities, group work, and use of ILT to check on learners understanding and knowledge. Provide support and feedback where necessary.</p>
Environmental considerations when disposing of waste materials	4.1	<p>Identify legal and organisational responsibilities and safe disposal practices regarding contaminated material and coolant. Observe safe disposal of contaminated material and coolant, question learners knowledge and understanding on processes and procedures</p>
Complete Learner Worksheet	1.1-5.1	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): 20 hrs



UNIT REF: L1MV22	UNIT TITLE: LUBRICATION SYSTEM COMPONENTS AND OPERATION
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Level: Level 1	Guided Learning (GL): 15 Hrs
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Overview: This unit introduces learners to the principles of engine lubrication systems, components and operation. It covers identifying the main components used in lubrication systems and the purpose and function of these components.
The learner also has to carry out practical activities of removing and refitting lubrication system components.

Learning Outcomes:

1. Know about engine lubrication systems
2. Know how engine lubrication systems operate
4. Know the environmental considerations when disposing of waste materials

Subject	AC	Teaching and Learning Methods
Components Used In Engine Lubrication Systems	1.1-1.2	<p>Present and discuss the purpose of the engine lubrication system components, include:</p> <ul style="list-style-type: none"> • lubricants – purpose and function: cooling, reduce friction, remove by-products, reduce corrosion • lubricant types: composition, natural & synthetic, grades, viscosity, properties • engine sump • oil pump and strainer • pressure relief valve • oil filter • oil galleries <p>Introduce a range of components through, presentations, handling of components, use of video`s and demonstrations on vehicles. Devise questions and answers activities, group work, and use of ILT where appropriate.</p>
Operation of Engine Lubrication System	2.1	<p>Explain the operating principles of:</p> <ul style="list-style-type: none"> • spray, splash, pressurised lubrication • boundary lubrication • sump • oil pump • oil filter • oil pressure relief valve • pressure monitoring (warning light, gauge) <p>Use presentations, video`s and demonstrations of components to demonstrate the concepts of operation. Devise questions and answers activities, group work, and use of ILT to check on learners understanding and knowledge. Provide support and feedback where necessary.</p>
Environmental considerations when disposing of waste materials	4.1	<p>Identify legal and organisational responsibilities and safe storage and disposal practices regarding contaminated material and oils. Observe safe disposal of contaminated material and oils, question learners knowledge and understanding on processes and procedures</p>
Complete Learner Worksheet	1.1-5.1	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): 20 hrs



UNIT REF: ELMV21	UNIT TITLE: VEHICLE DRIVELINE MAINTENANCE
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Level: Entry 3	Guided Learning (GL): 17 Hrs
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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	<p>Study light vehicle drivelines and the component parts making up the drive chain.</p> <p>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.</p> <p>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.</p>
Vehicle Gearboxes	3.1	<p>Identify the main components found in basic manual and automatic gearboxes using sectioned gearboxes.</p> <p>Identify component positions using vehicles on lifts, ramps etc and ask learners to identify each component and briefly state their function.</p> <p>Use videos to show how energy from the engine is transmitted into motion using a gearbox.</p> <p>Confirm learner understanding with use of Q&A.</p>
Complete the learner worksheet	1.1-4.3	<p>Provide supplementary materials and handouts.</p> <p>Explain the requirements and layout of the worksheet.</p>

Theory, practical sessions, assessments, tutorial, feedback and directed study time (TQT): 22 hrs



UNIT REF: ELMV20	UNIT TITLE: ROUTINE VEHICLE MAINTENANCE PROCESSES AND PROCEDURES
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Level: Entry 3	Guided Learning (GL): 17 Hrs
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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