

Training Package	Automotive Industry Retail, Service and Repair (AUR05)	HSC Requirements and Advice
Unit title	Implement and monitor environmental regulations in the automotive mechanical industry	
Unit code	Unit descriptor	HSC Indicative Hours
AURT271781A	This unit covers the competence to undertake service or repair of light or heavy vehicles, motorcycles, outdoor power equipment or their components in a manner that ensures the protection of the environment.	10

Evidence Guide		HSC Requirements and Advice
The evidence guide identifies critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statement.		
Critical aspects of evidence	Underpinning knowledge	Key Terms and Concepts
<ul style="list-style-type: none"> • Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment. • Implement environmental regulations and best practice. • Identify materials used in an automotive workplace or business and assess their environmental impact. • Follow work instructions, operating procedures and inspection processes to: <ul style="list-style-type: none"> - minimise risk of injury to self and others - prevent damage and wastage of goods, equipment and products - maintain production output and product quality. • Work effectively with others. • Modify activities to cater for variations in workplace context and environment. • Use of a spill kit. • Conduct operator maintenance on tooling and equipment to ensure environmental efficiency. 	<ul style="list-style-type: none"> • Aspects of environmental legislation and its implications to work being undertaken. • Characteristics and potential environmental impact of products used in automotive mechanical workplace or business. • Philosophy of prevention, reduce, reuse, recycle. • Procedures for documenting machinery faults and material defects. • Action to be undertaken in case of significant environmental threat in the workplace or business. • Documenting procedures for significant environmental damage occurring in the workplace. 	<ul style="list-style-type: none"> • absorbent material • air quality • clean-up management • Department of Environment and Conservation • environmental impact • environmental issues • ethical environmental practice • environmental hazards/threats • environmental legislation • environmental planning • environmental policy • environmental regulations • fumes/gases • ground contamination • hazard and risk identification • legislative responsibilities • liquid waste • machinery faults • material defects • Material Safety Data Sheets (MSDS) • noise hazards • noise pollution • noise limits/controls

Evidence Guide cont/d			HSC Requirements and Advice
Context of assessment	Method of assessment	Specific resource requirements for this unit	Key Terms and Concepts
<p>Assessment <i>may</i> occur on the job or in a workplace simulated facility with process equipment, materials, work instructions and deadlines.</p>	<p>Assessment methods <u>must</u> confirm consistency of performance over time and in a range of workplace contexts.</p> <p>Assessment <u>should</u> be by direct observation of tasks and questioning on underpinning knowledge.</p> <p>Assessment <u>should</u> be conducted over time and should be in conjunction with assessment of other units of competence.</p>	<p>The following resources <u>should</u> be made available:</p> <ul style="list-style-type: none"> • an automotive mechanical workplace or business with a range of vehicles or mechanical components • spill kits, recycling drums, vacuum cleaners/ brooms/mop and bucket, quick break degreasing agents, undercover bunded or drained areas liquid, sludge and solid wastes. 	<ul style="list-style-type: none"> • noise, dust and vibration management • packaging • penalties/penalty tier system/penalty units • personal protective equipment (PPE) • prevent, reduce, reuse, recycle • recording and reporting procedures • safe handling • spill clean-up procedures • spill kit • spills • standard operating procedures • storage and disposal of hazardous/non-hazardous material • stormwater hazards • stormwater systems • storage equipment/facilities • waste management/minimisation • work instructions • waste disposal • waste water/contaminants.

Specific key competencies, underpinning and employability skills required to achieve the performance criteria

These include a number of processes learned throughout work and life, which are required in most jobs. Some of these are covered by the national key competencies, although others may be added. The details below highlight how these competencies are applied in the attainment of this unit.

Application of the key competencies in this unit are to satisfy the nominated level in which:

Level 1 – relates to working effectively within set conditions and processes;

Level 2 – relates to management or facilitation of conditions or processes; and

Level 3 – relates to design, development and evaluation of conditions or process.

How will the candidate apply the following key competency in this unit? The candidate will need to:

Collect, analyse and organise information	Collect, organise and understand information related to environmental procedures from legislation, regulations and workplace or business practices in an automotive mechanical workplace or business.	Level 2
Communicate ideas and information	Communicate ideas and information to enable work undertaken is in accordance with environmental best practice, coordination of work with site supervisor, other workers and customers, and documenting of work outcomes and problems.	Level 2
Plan and organise activities	Plan and organise activities, including the preparation of equipment and material and the selection of worksite to avoid environmental contamination, backtracking, workflow interruptions or wastage.	Level 3
Work with others and in a team	Work with others and in a team by recognising dependencies and using cooperative approaches to minimise wastage, optimise workflow and productivity.	Level 2
Use mathematical ideas and techniques	Use mathematical ideas and techniques to correctly complete measurements and estimate material for work.	Level 2
Solve problems	Use planning, checking and inspection techniques to avoid environmental contamination and wastage.	Level 2
Use technology	Use workplace technology related to environmental protection equipment.	Level 2

Please note: AURC272003A *Apply environmental regulations and best practice in a workplace or business* is a compulsory unit of competency for Certificate I in Automotive. The underpinning knowledge and skills from this unit have been incorporated into the following HSC Requirements and Advice.

Element	Performance Criteria	Range Statement	HSC Requirements and Advice
1 Implement environment regulations	1.1 Reasons for ethical environmental practice in an automotive mechanical workplace or business are identified.	<p>The Range Statement provides advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables may be present for this particular unit:</p> <p>Automotive mechanical workplace or business</p> <ul style="list-style-type: none"> mechanical workplace or business undertaking either general or specialist mechanical repairs to; light or heavy vehicles or their mechanical components, motorcycles or outdoor power equipment. Specialised mechanical repairs <i>can</i> include transmissions, steering and suspension, brakes, engine reconditioning, diesel fuelled plant, exhausts and radiators. <p>Unit scope</p> <ul style="list-style-type: none"> work <u>involves</u> activities of a mechanical or mechanical specialist workplace or business, including service, removal, repair or fitting of mechanical components for light vehicles, heavy vehicles motorcycles, outdoor power equipment this unit is applicable to many mechanical qualifications at both certificate II and III level. <p>Unit context</p> <ul style="list-style-type: none"> OH&S requirements <u>include</u> OH&S legislation, material safety data sheets, hazardous substances and dangerous goods code and safe operating procedures work <u>requires</u> individuals to demonstrate discretion, judgement and problem-solving skills in undertaking environmentally sound work practices competence <i>may</i> be demonstrated in workplaces involved in the service, repair, overhaul, replacement or fitting of vehicles parts and components. 	<p>Learning experiences for the HSC must address:</p> <p>A basic awareness of current environmental issues applicable to the automotive industry including:</p> <ul style="list-style-type: none"> sustainability waste management energy use/efficiency water resource management air pollution natural resource management re-use recycling. <p>Define:</p> <ul style="list-style-type: none"> ethical environmental practice. <p>An awareness of environmental hazards in the automotive industry including:</p> <ul style="list-style-type: none"> airborne particles noise gases/refrigerants vibration chemicals and other hazardous substances by-products/waste materials. <p>Consequences of poor environmental planning for the following:</p> <ul style="list-style-type: none"> waterways neighbouring properties air quality transport and logistics. <p>Characteristics and potential environmental impact of materials and products used or found in an automotive industry environment including:</p> <ul style="list-style-type: none"> chemicals solvents adhesives acids flammable materials paints oils

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			<ul style="list-style-type: none"> • petroleum-based substances • explosive goods • by-products • rubbers • asbestos • glass • hydrocarbons • refrigerants • metals • heavy metals. <p>How and where to obtain required Material Safety Data Sheets (MSDS).</p>
	<p>1.2 Environmental responsibilities of staff in an automotive mechanical workplace or business are identified.</p>	<p>Materials</p> <ul style="list-style-type: none"> • material safety data sheets. <p>Personal protective equipment</p> <ul style="list-style-type: none"> • personal protective equipment <u>is to</u> include that prescribed under legislation, regulations and enterprise policies and practices. <p>Information and procedures</p> <ul style="list-style-type: none"> • workplace procedures <u>relating to</u> the use of tooling and equipment • work instructions, <u>including</u> job sheets • workplace procedures <u>relating to</u> documenting and communication of environmental issues • manufacturer/component supplier specifications and operational procedures • site environmental policy. 	<p>Learning experiences for the HSC must address:</p> <p>Knowledge of environmental responsibilities of staff in accordance with workplace/organisation policy and procedures including:</p> <ul style="list-style-type: none"> • following work instructions, standard operating procedures and inspection processes • reporting and communication of environmental issues • maintaining environmental records <ul style="list-style-type: none"> - incident and accident reports - inspection reports. <p>An awareness of workplace/organisation site environmental policy.</p> <p>Environmental requirements including management of:</p> <ul style="list-style-type: none"> • waste • noise • dust • vibration • clean-up. <p>Strategies and procedures for minimisation of potential negative environmental impacts including:</p> <ul style="list-style-type: none"> • resource efficiency • environmental hazard and risk identification and reporting

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			<ul style="list-style-type: none"> • environmental monitoring • avoidance or minimisation strategies <ul style="list-style-type: none"> - regular maintenance of machinery and equipment - identifying, reporting and rectifying machinery faults and material defects - use of biodegradable/non-toxic materials • waste minimisation <ul style="list-style-type: none"> - accurate measurements and calculations - recycling - using recyclable products - resource efficiency • emergency procedures • removal and disposal of non-reusable materials in a responsible manner: <ul style="list-style-type: none"> - work materials - chemicals and hazardous substances • safe storage of reusable materials in accordance with enterprise/workplace policy and statutory requirements • containment of loose materials in the workplace (such as mud, dust, litter and waste material).
	<p>1.3 Penalties for individual breaches of legislation are identified.</p>	<p>Unit context</p> <ul style="list-style-type: none"> • work <u>is</u> carried out in accordance with legislative obligations, environmental legislation, OH&S regulations, manual handling procedures and organisation insurance requirements. <p>Information and procedures</p> <ul style="list-style-type: none"> • environmental legislation, regulations and advice. 	<p>Learning experiences for the HSC must address:</p> <p>A basic understanding of the main features of relevant environmental legislation and their amendments including:</p> <ul style="list-style-type: none"> • <i>Protection of the Environment Operations Act 1997 (NSW)</i> • <i>Protection of the Environment Operations Amendment Act 2005 (NSW)</i> • <i>Protection of the Environment Operations (Noise Control) Regulation 2000 (NSW)</i> • <i>Protection of the Environment Operations (Clean Air) Regulation 2002 (NSW)</i> • <i>Protection of the Environment Operations (Penalty Notices) Regulations 2004</i> • <i>Water Management Act 2000 (NSW)</i> • <i>Waste Avoidance and Resource Recovery Act 2001 (NSW)</i> • Codes of Practice (WorkCover NSW) <ul style="list-style-type: none"> - Control of Workplace Hazardous Substances - Storage and Handling of Dangerous Goods.

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			<p>An awareness of the roles/responsibilities of the NSW Department of Environment and Conservation incorporating Environment Protection Authority (EPA).</p> <p>Awareness of legislative responsibilities of:</p> <ul style="list-style-type: none"> • the workplace/organisation • an individual worker. <p>Awareness of penalties for corporations and individuals regarding:</p> <ul style="list-style-type: none"> • noise offences • waste disposal • oil/fuel spills • acid disposal. <p>Understanding of the penalty tier system and penalty units.</p>
	<p>1.4 Waste is minimised, waste material, including sludge, solids and other wastes are sorted and stored in bins for recycling or disposal.</p>	<p>Tooling and equipment</p> <ul style="list-style-type: none"> • tooling and equipment <u>are to</u> include recycling bins and drums, banded or drained wash bays and preparation areas, parts washers, spill kits, quick break degreasing compounds, cleaning equipment, oil drip trays, waste management systems and waste water systems. 	<p>Learning experiences for the HSC must address:</p> <p>Environmental requirements for dealing with waste including:</p> <ul style="list-style-type: none"> • recycling <ul style="list-style-type: none"> - paper-based products - plastic - packaging materials - worn components - metal components - consumable materials - engine/body components - by-products • approved storage and disposal of <ul style="list-style-type: none"> - hazardous material - non-hazardous material. <p>Knowledge of workplace/organisation policies and procedures for waste disposal.</p>
	<p>1.5 Packaging on goods received is sorted and reused or disposed of to recycling.</p>		<p>Learning experiences for the HSC must address:</p> <p>Packing materials including:</p> <ul style="list-style-type: none"> • paper • cardboard • plastic • packing tape

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			<ul style="list-style-type: none"> • ties/staples • polystyrene.
2 Monitor and avoid hazards to stormwater	2.1 No waste water or contaminants are allowed to enter stormwater systems.		<p>Learning experiences for the HSC must address:</p> <p>Environmental hazards/threats to stormwater systems including:</p> <ul style="list-style-type: none"> • chemical/gas/oil spillage/leakage • waste discharge • pollution • inappropriate human interaction • malfunction of separators.
	2.2 Surface cleaning, engine degreasing and preparation is undertaken in an impervious paved area and does not contaminate stormwater.		<p>Learning experiences for the HSC must address:</p> <p>Awareness of specialised cleaning bays/areas with particle traps to enable the following:</p> <ul style="list-style-type: none"> • correct disposal of solids • protection of grassed areas • prevention of run-off. <p>Knowledge of a range of surface cleaning and engine degreasing materials and techniques including:</p> <ul style="list-style-type: none"> • water-based degreasers • wet vacuuming.
	2.3 Parts and components containing environmentally hazardous material are stored under cover in a sealed and bunded or drained treatment area.		<p>Learning experiences for the HSC must address:</p> <p>Appropriate storage equipment and facilities including:</p> <ul style="list-style-type: none"> • storage containers • recycling containers • spill trays • treatment areas • wash bays • bunding. <p>Awareness of the hazards of ground contamination.</p>
	2.4 Liquid wastes are drained into storage or recycling containers.		

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	2.5 Parts washing is undertaken in an approved parts washer that does not cause contamination of stormwater or ground.		<p>Learning experiences for the HSC must address:</p> <p>Understanding of the features and operation of specialist parts washing systems including:</p> <ul style="list-style-type: none"> • active enzyme water-based solution • ultrasonic water-based solution.
	2.6 Spill kit is located and used as needed to prevent stormwater contamination.		<p>Learning experiences for the HSC must address:</p> <p>Knowledge of the contents of a spill kit including:</p> <ul style="list-style-type: none"> • mops/brooms • booms • PPE • absorbent material <ul style="list-style-type: none"> - sawdust - wool/cotton pads/rolls. <p>Standard operating procedures for the use of spill kits.</p> <p>Appropriate disposal of absorbent material.</p>
	2.7 Drip trays are used under vehicles when chance of spillage or leakage is present.		
	2.8 Spills are cleaned up immediately and workplace is kept clean to prevent unintentional stormwater pollution.		<p>Learning experiences for the HSC must address:</p> <p>Acknowledgement of the importance of cleaning up spills.</p> <p>Procedures to follow in the event of a spill including:</p> <ul style="list-style-type: none"> • notification <ul style="list-style-type: none"> - appropriate authorities (emergency services, EPA and local council) - colleagues - supervisor • workplace/organisation policies and procedures <ul style="list-style-type: none"> - evacuate - secure building • reporting. <p>How and when to seek assistance.</p>
			Knowledge of spill clean-up procedures:

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	2.9 Hands are cleaned over drains connected to an oil/water separator or drums for collecting liquid waste.		<ul style="list-style-type: none"> • stop the source • contain the spill and control its flow • stop the spill from entering any stormwater drains by blocking the drain inlets • clean up the spill in accordance with relevant MSDS.
3 Monitor and avoid hazards to air quality	3.1 Vehicle exhausts and emissions are minimised and not permitted to collect in the workplace.		<p>Learning experiences for the HSC must address:</p> <ul style="list-style-type: none"> • Knowledge of the features and use of common workshop ventilation and extraction systems.
	3.2 Hazards of airborne particles are monitored, minimised and contained.		<p>Learning experiences for the HSC must address:</p> <p>Airborne environmental hazards/threats including:</p> <ul style="list-style-type: none"> • hazardous substance evaporation • chemical/gas spillage/leakage • equipment/machinery emissions. <p>A knowledge of techniques to minimise airborne hazards including:</p> <ul style="list-style-type: none"> • appropriate storage of solvents and fuels • conducting spray painting in a booth • regularly servicing air filters on spray booths • dampening floor before sweeping • removing sweepings in a sealed container • vacuuming brake dust into a sealed container • minimising period of time to run vehicles/engines • good tuning • using pollution control devices • regular maintenance of equipment • collection and recycling of air-conditioner refrigerants • use of workshop exhaust extraction systems.
	3.3 Hazards of gases are monitored, minimised and contained.		<p>Learning experiences for the HSC must address:</p> <ul style="list-style-type: none"> • Knowledge of the characteristics of and hazards associated with gases commonly found in the
			<p>automotive industry including:</p> <ul style="list-style-type: none"> • carbon monoxide

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	3.4 Welding is conducting in a well-ventilated area.		<ul style="list-style-type: none"> • hydrocarbons • nitrogen oxides.
4 Monitor and avoid noise hazards	4.1 Noise generating activities are minimised and carried out within approved operating hours.		<p>Learning experiences for the HSC must address:</p> <p>Noise pollution including:</p> <ul style="list-style-type: none"> • sound • vibration. <p>An awareness of workplace sources of noise hazards including:</p> <ul style="list-style-type: none"> • mechanical tools, equipment and machinery • engines • fans and exhausts • transport of materials, such as on conveyors and trucks • pumps and compressors • whistles and alarms. <p>Awareness of noise limits and controls including:</p> <ul style="list-style-type: none"> • time restrictions • noise emissions • council zoning. <p>Strategies for minimising noise impact:</p> <ul style="list-style-type: none"> • noise source controls <ul style="list-style-type: none"> - enclosing the source - silencing exhausts/mufflers - noise barrier systems - active noise control - times of operation. • sound-transmission controls <ul style="list-style-type: none"> - reflective or absorptive materials as noise barriers/covers - mounds, bunds and trenches - maximising the distance from the noise source to the receiver
			<ul style="list-style-type: none"> - maintaining plant and equipment to ensure that the designers' noise-output specifications continue to be met • noise receiver controls

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			<ul style="list-style-type: none"> - insulation - double glazing of windows and use of air-conditioning • using the building structure to shield outdoor areas - sealing air gaps around doors and windows - using solid core doors - using thicker window glass, double glazing.