

Title	Demonstrate knowledge of new and emerging technology in the motor industry		
Level	2	Credits	5

Purpose	People credited with this unit standard are able to demonstrate knowledge of factors affecting vehicle technology changes, and new and emerging vehicle technology in the motor industry.
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Classification	Motor Industry > Automotive Administration
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Available grade	Achieved
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Guidance Information

For this unit standard, *new and emerging technology* includes automotive systems, materials and processes on all types and classes of vehicles recently introduced or will or could be introduced by vehicle and component manufacturers within the next 10 years.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of factors affecting vehicle technology changes.

Performance criteria

1.1 Effect of legislation on vehicle technology is explained.

Range includes but is not limited to – vehicle safety, environmental safety, occupant protection.

1.2 Industry and market trends and drivers to improve vehicle technology are defined.

Range includes but is not limited to – social, economic, environmental, political, infrastructural.

Outcome 2

Demonstrate knowledge of new and emerging vehicle technology in the motor industry.

Performance criteria

- 2.1 Motive power of vehicles are described according to the vehicle manufacturer's specifications.
- Range includes but is not limited to – petrol, diesel, bio-diesel, LPG, CNG, LNG, ethanol, methanol, hybrid, electric, hydrogen and fuel cells.
- 2.2 Vehicle body/construction technology is described according to the vehicle manufacturer's information.
- Range includes but is not limited to – exterior and interior construction and design; steel alloy, aluminium alloy, composite materials, hard and soft trim.
- 2.3 Electronic and communication technology is described according to the vehicle manufacturer's specifications.
- Range includes but is not limited to – in-vehicle information systems, computer-controlled systems that affect vehicle performance and occupant safety.
- 2.4 Engine and drive train technology is described according to the vehicle manufacturer's specifications.
- Range includes but is not limited to – engine, transmission and drive system design, fuel injection, total management systems; emissions (pollution and noise), efficiency, performance and driveability, reliability and durability, weight and size, reduction in manufacturing and servicing costs.
- 2.5 Suspension and braking technology is described according to the vehicle manufacturer's specifications.
- Range includes but is not limited to – electronically controlled ABS (anti-lock braking system) and suspension, ride stability, traction control.
- 2.6 Vehicle safety system technology is described according to the vehicle manufacturer's specifications.
- Range includes but is not limited to – passive and active safety systems, body design, occupant protection cells, energy absorption, pedestrian safety.
- 2.7 Impacts of new technology on existing automotive workplaces are identified.
- Range includes but is not limited to – staff, shop layout, tools and equipment, company procedures.

2.8 Sources of information about new and emerging vehicle technology are identified.

Range includes but is not limited to – industry and manufacturer’s training courses, training providers, internet, magazines, technical literature.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 July 2005	31 December 2020
Review	2	30 August 2018	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.