Mining and Automotive Skills Alliance

Final Report

Qualification Reform Demonstration Project - Automotive

26 September 2024

Mining and Automotive Skills Alliance

We pay our respects to First Nations people, those who cared for Country before our time, and those who continue to care for Country today.

We acknowledge them as the Traditional Custodians of the lands on which we live and work and their connections to land, sea, and community.

We honour and respect their Elders, past, present, and emerging, and extend that respect to all First Nations people.

Jobs and Skills Council	**AUSMASA**
Contact information	
Demonstration project title	**Qualification Reform Automotive Demonstration Project**

Mining and Automotive Skills Alliance

Contents

Executive Summary

This report outlines the findings and recommendations from the Qualification Reform Demonstration Project (QRDP) for the automotive sector, led by AUSMASA (Mining and Automotive Skills Alliance).

The primary goal of the project was to improve pathways into the automotive sector and increase the entry-level skilled workforce available to support this critical industry, which has suffered from chronic skills shortages.

The project tested a new purpose-driven, principles-based model for qualification design. using extensive consultations with a broad range of stakeholders, including industry, unions, government, and Registered Training Organisations (RTOs), to ensure alignment with the sector's expectations.

The project methodology was divided into two stages:

1. **Stage 1**: A desktop review of existing qualifications and their alignment with industry needs. This stage focused on identifying skills overlaps, rationalising qualifications, and exploring opportunities for credit transfer.
2. **Stage 2**: Develop and test a new qualification model, including creating sample training products and consulting with stakeholders.

Findings

The project outcomes revealed key insights into the current landscape of AUR Certificate II qualifications. Most of these qualifications are designed primarily as pathways to AUR Certificate III programs, with limited direct job outcomes and generally low enrolment numbers. However, a few qualifications linked to specific licensing requirements, such as Automotive Tyre Servicing Technology and Automotive Air Conditioning Technology, lead directly to job roles and show strong enrolments.

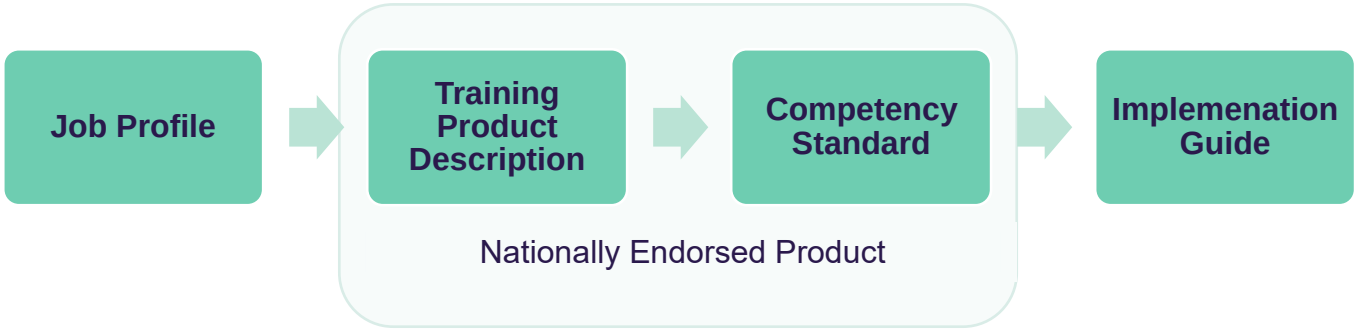
A significant issue identified was the overlap between units of competency in both Certificate II and Certificate III qualifications. This raised concerns about the level of credit granted for Certificate II qualifications, especially when they are delivered in an institutional setting without workplace experience, which can undermine the preparedness of graduates for more advanced roles.

The automotive industry also highlighted the need for workers with stronger literacy, numeracy, digital, and "enduring skills"—such as critical thinking, problem-solving, and collaboration—which were seen as essential for future roles in the sector.

The project proposed a new qualification model that focuses on developing broader knowledge and skills, moving away from entry-level qualifications tied to a single occupational stream. While this model presents exciting potential, it also brings various implications—particularly regarding its impact on industrial relations and the Vehicle Repair Services and Retail (VRS&R) award. These aspects will need to be further investigated before full qualifications can be developed and delivered to students.

The Proposed Model and Rationale

The AUSMASA Model has been developed considering the reform process's goals and the needs of the sector's three primary stakeholder groups: Learners, Industry, and Training Providers. The project stakeholders provided feedback indicating that the existing templates for qualifications and units of competency were overly focused on specific tasks. This resulted in fragmented learning experiences that did not adequately prepare students for a wide range of job roles. As a result, the model was developed with four components, as shown below.



Job Profile: This component provides high-level information about jobs within industry sectors, including the knowledge, skills, and capabilities required. The profile allows learners and industry to compare jobs, identify similarities, and plan career progression more effectively

Training Product Description: This description replaces the previous qualification packaging rules and outlines the structure, purpose, competencies, and pathways for learners. It also details entry requirements, foundational skills, and assessment guidelines. This change was made to provide a more holistic view of qualifications and better support Registered Training Organisations (RTOs) in delivering them.

Competency Standard: This replaces the traditional unit of competency and focuses on the broader skills required for job performance, the knowledge that supports those skills, and their practical application. The rationale for this change was to shift away from overly task-specific units, allowing for greater flexibility and reducing duplication across training packages. This change also encourages RTOs to contextualise learning for industry needs.

Implementation Guide: Developed for RTOs, this guide offers expanded delivery and assessment information. It provides detailed contextual information to support the qualification's implementation, ensuring consistency in training outcomes. The guide addresses the sector's concerns about quality by offering practical resources and advice for RTOs.

Rationale for Changes

Flexibility and Transferability: The changes aim to reduce unnecessary specificity in qualifications, focusing instead on transferable skills that can be applied across multiple job roles within the automotive industry. This is intended to better prepare students for evolving industry needs and ensure that qualifications remain relevant in a rapidly changing job market.

Reducing Duplication: The new templates aim to streamline qualifications and avoid repetition by consolidating overlapping units of competency and reducing the focus on granular task descriptions. This approach is designed to make qualifications more efficient to deliver while maintaining their relevance to industry.

Improved Learning Outcomes: The new competency standards focus on both skills and knowledge, ensuring that students are not only trained in specific tasks but also understand the underlying principles that will allow them to adapt to new technologies and job requirements.

Clarity and Consistency: The updated templates provide clearer guidance to RTOs on how to deliver qualifications. By including job profiles and detailed training product descriptions, RTOs can better plan for learner pathways and align training with industry needs.

Recommendations

To support JSCs in implementing a new model, the government should consider and formally respond to the following recommendations to ensure that the transition is effective, scalable, and aligned with industry needs. This will ensure that stakeholder feedback and concerns can be adequately addressed prior to a decision regarding implementation.

Foster Industry Partnerships and Collaboration

Recommendation 1: Industrial Relations – Prior to a decision being made in relation to the project, it is recommended that enabling activities be initiated to investigate the size and complexity of any barriers to qualification reform. This assessment should aim to minimise any disruption to the current harmonious industrial relations landscape in Australia. This recommendation serves as a preliminary and conditional step to guide the next stages of the reform process.

Recommendation 2: **Broader barriers to implementation** - In addition to industrial relations concerns, it is recommended that a comprehensive review be conducted to address other key barriers to implementing qualification reforms, as outlined in this report. These barriers, raised by stakeholders, include challenges related to systemic issues that could affect the success of the reform.

Recommendation 3: Industry Collaboration for Implementation Guide Development – Facilitate partnerships between JSCs, industry, and educational providers to co-design standards and supporting implementation guides that reflect real-world skills, knowledge, and capability needed in various sectors. This collaboration ensures that training is closely aligned with the evolving needs of the workforce.

Pilot Programs and Scalable Models

Recommendation 4: Pilot Program - Fund pilots to test possible implementation. These pilots can provide insights into best practices and potential challenges and ensure the model is scalable across industries and adaptable to different types of learners, from school leavers to adult workers seeking retraining.

Provide Funding and Resources

Recommendation 5: Direct Financial Support - Allocate targeted funding to JSCs to develop and fully test reform models. This could include funding a trial project to progress the demonstration project and developing new implementation guides, training materials, and assessment tools as a starting point.

Recommendation 6: Support for Registered Training Organisations - Provide funding for upskilling RTOs, trainers, and assessors, ensuring they can adapt and deliver quality education effectively if a new model is implemented. This links with national messaging and JSC collaboration.

Promote the New Model and Raise Awareness

Recommendation 7: Engagement with Stakeholders - Actively engage with key stakeholders such as RTOs, industry bodies, unions, and state and territory authorities to ensure widespread understanding and support for qualification reform.

Recommendation 8: National Messaging - Provide consistent messaging nationally to promote the reform's benefits, highlighting its relevance to job seekers, communities, and employers. This must include clarity around the end goal of reform activities and could include case studies, success stories, and industry endorsements. The messaging will need to adopt a range of formats for a range of audiences.

Recommendation 9: Share Best Practices - Create platforms for sharing insights and lessons learned from any pilot programs. This could include the cross-functional JSC teams that would be required as well as more broadly with the VET sector and Industry.

Barriers to Implementation

Making changes in a system that has undergone extensive reform efforts without delivering tangible benefits in the view of many stakeholders is particularly challenging due to systemic inertia, reform fatigue, complexity, and a lack of trust in the process. During the AUSMASA project, stakeholders consistently raised eight key challenges that the QRDG must address, and broader support from all stakeholders will be essential to ensure the successful implementation of the reform model.

Industrial Awards

The PSC included AMWU union representation, and the issue of linkage between the current units of competency and competency-based pay progression in various awards has been raised. The degree of linkage and specification in the awards does differ, with most referring to a level of AQF qualification as the benchmark for pay progression. However, there are awards such as the Manufacturing and Associated Industries and Occupations Award that refer to specific point values attached to a unit of competency. As suggested earlier, an approach where a specially skilled team works to cooperatively explore industrial relations implications is recommended. It should also be noted that a number of the awards reviewed included references to superseded and deleted qualifications and used the language of modules. The reform process could be viewed as an

opportunity to adopt a consistent and current approach across the modern awards, maintaining competency-based progression.

Funding

There was broad agreement that current funding models can influence what training is completed, rather than industry need being the driver for participation in training. The stakeholders highlighted that because funding is determined on a state or territory basis any new or consolidated qualifications would require support across the country to ensure that the new model can be effectively implemented. The PSC has highlighted that consolidation of Certificate II AUR qualifications should simplify funding decisions for the States and Territories. It is anticipated that this would also be the case should reform progress across the VET Sector. State and Territory bodies have stressed that there needs to be a degree of flexibility to enable them to respond to jurisdictional needs.

Licensing

National and state-based licensing regimes do have the potential to be impacted by the model, and the PSC felt that licensing in the automotive industry was likely to increase with the introduction of new technologies (for example hydrogen) and the ongoing electrification of plant and vehicles. The Training Package Development Process does require the JSCs to consider licensing requirements, and the Training Products developed would refer to licensing requirements. Across various industries licensing requirements are both very specific, including specific unit codes, and more general, listing, for example, a Certificate II or Certificate III in Body Repair Work.

The proposed model will include training products and competency standards with unique codes that industry regulators may choose to include in their industry requirements. It should be stressed that Training Products are not a compliance tool but rather an educative tool.

RTO Quality Issues

While many RTOs provide quality delivery and assessment, a lack of quality in some RTOs has impacted the knowledge and skills of graduates, undermining industry confidence in the VET system to the point where the industry does not trust the programs' outcomes. This includes both training and assessment.

The current regulatory standards are virtually silent about the quality of training delivery, and this has made the quality of assessment practices critical for ensuring quality outcomes. While yet to be released at the time of this report, the revised training regulation does have a more significant focus on training. The revised regulation provides an opportunity to better support and monitor training outcomes from RTOs. Without question, RTOs will need to be supported to successfully implement the new model and improving RTO quality would include a range of actions that are beyond qualification reform as Training Products are not a tool to manage RTO quality.

Independent assessment

Independent assessment was raised by the PSC as there was serious concern about the quality of assessment conducted by RTOs. The PSC considered independent assessment as a feasible approach to ensure that all graduates met the expectations of industry. Australian examples provided included the capstone assessment model used in the electrical industry and the Journeyman exam in Plumbing. International examples were also provided: the Red Seal exams in

Canada and the end point assessments used in the UK. The PSC felt that these models would be an improvement; however, the most beneficial approach for the learners and, as a consequence, RTOs would be for the independent assessment to be conducted throughout the apprenticeships. This model allowed the learners and RTOs to fill any gaps in the candidate's knowledge and skill progressively. The PSC felt the independent assessment model was most aligned with apprenticeships and an important component of skills reform.

Nominal Hours

Completing VET qualifications can contribute to meeting the requirements for a Certificate of Secondary Education in all states and territories. Again, there are differences in the arrangements in each State and Territory. Many rely on nominal-hour arrangements. When changes are made to the training products, consideration must be given to the impact on VET delivered to Secondary School students (VDSS). This should be built into the training product development process for all relevant training products.

Change Fatigue

The VET Sector has been in an almost perpetual state of reform for decades. The impact and fatigue caused by constant and ongoing changes cannot be underestimated when considering how any change implementation is to be managed. The fatigue is exacerbated when stakeholders cannot clearly see how the change will happen, what the tangible improvements are and how their needs will be met.

Structural Issues

The stakeholders consulted for this project have not questioned the need for reform. Most have, however, questioned how the qualifications reform fits with other reform activities in the sector, for example, its governance, funding, and regulation. Communication about how all reform activities will combine to provide positive outcomes for individuals, RTOs, industry, and the broader community needs to be improved.

PSC Acknowledgment

AUSMASA extends our gratitude to the Project Steering Committee for their unwavering commitment, expertise, and invaluable contributions throughout the Qualification Reform Demonstration Project. Your collective insights, feedback, and guidance were instrumental in shaping the outcomes of this initiative. The diverse perspectives and dedication from industry, unions, RTOs, and government representatives enriched the project and ensured that it remained aligned with the real-world needs of the automotive sector.

We sincerely thank each member for their expertise, time, and passion for the automotive industry. Your dedication to improving the sector and your commitment to supporting the individuals who make it thrive have been essential to the project.

Mining and Automotive Skills Alliance

Part A

The AUSMASA Project

Project Methodology

The Automotive Demonstration Project is testing a new approach to qualification design focused more on identifying knowledge and capabilities required across related jobs in the industry and less on describing specific tasks. The project explores how the existing suite of Certificate II qualifications in the AUR Training Package could be redesigned to:

- create stronger pathways for learners
- open up opportunities across a range of careers in the automotive sector, and
- more effectively meet industry workforce needs.

The project tests 'Purpose 2' of the proposed purpose-driven, principles-based qualification model. Purpose 2 qualifications prepare students for multiple, related occupations while retaining industry relevance. Stage 1 of the work included:

- Initial desktop review and analysis of various data sets, enrolment and completion data
- Identification of overlap and opportunities to remove duplication of skills/knowledge
- Identification of potentially unnecessarily prescriptive requirements of units that could be revised to reduce specificity
- Exploration of intersections with relevant Certificate III qualifications and potential barriers to credit transfer
- Development of opportunities to focus on shared skills and knowledge to maximise the transferability of skill and knowledge from these pathways qualifications into a broad range of occupations within the automotive sector
- Development of and consultation with the steering committee and other key stakeholders on the proposed rationalisation of Certificate II qualifications.
- Submission of an initial report.

Stage 2 of the work included:

- Development of a qualification model to meet industry needs
- Development of a suite of sample training products (standards) from the revised model
- Consultation with the steering committee and other key stakeholders on the proposed qualification and training products
- Submission of a final report with recommendations for consideration by the Qualifications Reform Design Group (QRDG).

Mining and Automotive Skills Alliance

Background to the Qualifications

Skilled employment in the Automotive Sector is at Certificate III, with the majority of job roles linked to a trade qualification. The Certificate II qualifications were designed to allow new entrants to develop skills in the area of a job role and then progress to a Certificate III qualification.

Before 2013, a single qualification, Certificate II in Automotive Mechanical, served the automotive industry. The qualification could be completed as a generic qualification or as a specialisation if specific elective units are chosen.

In late 2012 the qualification was replaced by 9 qualifications that broadly aligned with the existing specialisations in the replaced qualification. At the same time, a new qualification – Certificate II in Automotive Vocational Preparation was established. This qualification is delivered exclusively in schools and is a tool to engage learners and promote potential career pathways in the automotive industry.

The qualifications were updated in 2016 and 2020, with an additional qualification Certificate II in Automotive Accessory Fitting introduced in 2021. The suite of qualifications reviewed for the project include:

- AUR20116 Certificate II in Automotive Administration
- AUR20220 Certificate II in Automotive Air Conditioning Technology **
- AUR20320 Certificate II in Bicycle Mechanical Technology
- AUR20420 Certificate II in Automotive Electrical Technology*
- AUR20520 Certificate II in Automotive Servicing Technology
- AUR20720 Certificate II in Automotive Vocational Preparation
- AUR20820 Certificate II in Outdoor Power Equipment Technology
- AUR20920 Certificate II in Automotive Body Repair Technology *
- AUR21020 Certificate II in Motor Sport Technology
- AUR21120 Certificate II in Automotive Sales
- AUR21220 Certificate II in Automotive Underbody Technology*
- AUR21520 Certificate II in Automotive Cylinder Head Reconditioning
- AUR21820 Certificate II in Automotive Steering and Suspension System Technology*
- AUR22021 Certificate II in Automotive Accessory Fitting
- AUR21920 Certificate II in Automotive Tyre Servicing Technology*

* Indicates a licensing requirement in NSW.

** A National Licensing requirement from the ARC – Australian Refrigeration Council.

Project Approach

The project approach was to ensure that the work was guided by Industry. To achieve this, a project steering committee (PSC) with broad representation from industry sectors, states and territories, industry associations, unions, RTOs, and state and territory representatives was established.

The primary role of the PSC was to provide industry-based vocational and technical advice and expertise to:

- Inform the development of a new approach to designing nationally accredited qualifications
- Test the proposed model for qualification reform
- Ensure the approach to the work and the outcomes produced, respond to the objectives of the project and answer key questions raised by the Qualifications Reform Design Group.

Individual members were asked to:

- Provide expert advice on technical issues related to the project
- Identify emerging trends and technologies that may impact the project and make recommendations on how to respond
- Guide the application of technical standards and best practices
- Provide advice and guidance on the implementation of training products from state and territory and Registered Training Organisation (RTO) perspectives
- Facilitate communication between technical and non-technical stakeholders
- Make decisions on qualification development with consideration of best practices, underpinning evidence, and implementation requirements
- Provide sign-off for each stage of the project

The PSC met fortnightly during stage 1 of the project and every 3 weeks during stage 2. As part of stage 1, the PSC met for two days in Melbourne to validate the initial data analysis and determine a possible suite of purpose two qualifications that would support the automotive industry.

Project Steering Committee Membership

Name	Role	Organisation	Type	Jurisdiction
Dean Moule	National Technical Manager	Bus Industry Confederation	Industry	VIC/ACT
Kate Evans	Training Manager, Asia Pacific	Cummins	Industry	VIC
Nikolaos Moutsos	Senior Program Specialist Quality & Service	Toyota Australia	Industry	VIC
Nigel Muller	Executive Manager, Training & TACC	Victorian Automotive Chamber of Commerce (VACC)	Industry	VIC
Matthew Wyatt	Training Institute Manager	CMV Truck & Bus – Training Institute	Industry	VIC
Travis Cacciola	A/Manager Training Curriculum Services | Skills Policy | Policy Planning and Research	Department of Training and Workforce	Government	WA

Name	Role	Organisation	Type	Jurisdiction
		Development (DTWD)		
Nilakshan Swarnarajah	A/Associate Director – Skills Policy | Policy Planning and Research	DTWD	Government	WA
Rosemarie Algeri	Principal Consultant - Policy	DTWD	Government	WA
Jeff Gittos	Portfolio Manager Heavy Automotive	South Metro TAFE	Private RTO	WA
Liz Canale	National RTO Lead	Otraco	Industry	WA
Barry Henderson	HSEQ Manager	Otraco	Industry	WA
Paul Baxter	National Skills and Training Coordinator	AMWU	Union	National
Brad Flanagan	Director Industry Initiatives	MTAQ	Private RTO	QLD
Shane Whalley	Apprentice Learning Delivery Supervisor	Hastings Deering	Industry	QLD
Debbie Joyce	Executive Officer	NSW ITAB	Industry	NSW
Jodi Ryan	General Manager, Apprenticeships	MTA SA/NT	Private RTO	SA/NT
Shane Gaghan	Team leader - Automotive and Civil Construction	Charles Darwin University	Private RTO	NT
Scott Neil	Director, Qualifications Reform | VET System Policy, Strategy and Budget Policy, Performance and Inclusion Division	DEWR	Government	National

All consultation for the project is recorded in a consultation log, included in Appendix 1.

The project also established two subcommittees, one for RTOs and a second for state and territory representatives. These committees each met twice during phase 2 of the project. They provided targeted feedback about the proposed model and training products and any potential challenges or barriers to be considered by the project.

Mining and Automotive Skills Alliance

The Purpose-led and Principles-Based Model

The Qualification Purposes

The purpose-driven model:

- **Purpose 1** – qualifications leading to a specific occupation (for example a licensed trade)
- **Purpose 2** – qualifications to prepare learners for multiple occupations within an industry
- **Purpose 3** – qualifications that develop cross-sectoral or foundation skills and knowledge which may be applied across industries, or lead to tertiary education and training pathways.

The qualification purpose descriptions being tested during the qualification reform process are clear and considered useful as a mental checklist when reviewing the qualifications. During the work for this project, they were easily applied to make decisions about the differences between a purpose 1 and purpose 2 qualification. Some PSC members saw the purpose 2 definition as the most difficult to use as the automotive industry is an occupational area where nearly all skilled work is linked to a trade, with the Certificate II automotive qualifications structured as pathways to specific trade outcomes with substantial credit provided.

Three Certificate II qualifications initially reviewed for this project are considered to be purpose 1 qualifications, they are:

- AUR20220 Certificate II in Automotive Air Conditioning Technology*
- AUR20520 Certificate II in Automotive Servicing Technology
- AUR21920 Certificate II in Automotive Tyre Servicing Technology*

Two of these qualifications are linked to licensing requirements*; all have strong enrolment and lead to a specific job outcome in the sector.

The PSC feels that the licensing flag will need further consideration by the QRDG, specifically at what point does licensing influence qualification content and structure as opposed to the other way around. In this project, several qualifications are linked to NSW-licensed work. For each category of licensed work, the Certificate II qualification is one of two possible qualifications required to carry out the work, the other qualification being a Certificate III, potentially leading to a reluctance to change.

Regarding purpose 3, there was a discussion about whether the existing qualification AUR20720 Certificate II in Automotive Vocational Preparation could be a purpose 3 qualification as its primary goal is engagement of school-based learners. The discussion determined that there was scope for a broader vocational preparation program – such as an engineering-focused program where learners could then move to a range of industries, including the automotive industry. The concept of focusing on common skills was also discussed and supported, particularly in relation to qualifications with pre-vocational outcomes.

Two of the 4 competency standards developed for this project could potentially be included in this type of program. They are:

- Demonstrate basic mechanical reasoning
- Remove and replace components

One of the 4 competency standards developed for this project could potentially be included in a prevocational program preparing learners for any workplace. That is:

- Demonstrate fundamental Interpersonal skills

The purpose descriptions have enabled the project to consider different options for the design of a purpose 2 qualification, including the use of a core-only model. This was seen by the PSC as a very positive outcome. The use of streamed electives is common in the AUR package and in the view of the PSC, its use in a purpose 2 qualification would be counterproductive, as it would re-create the situation that already exists with the current suite of Certificate II automotive qualifications.

The PSC supported the notion that the structure and outcomes for the different purpose qualifications (pre-vocational, pre-apprenticeship and occupational qualifications) need to be different to drive change in the sector. This also informed the design of the competency standard in Attachment 3, which is discussed on pages 26 and 27.

Qualification Development Quality Principles

The QDRG has provided 6 Qualification Development Quality Principles to guide the cultural shift that needs to occur in qualifications design:

1. ensure learners' needs and aspirations inform qualification design, including transferability, transitioning occupations and industries, and mobility across industries;
2. place equal importance on skill, knowledge, and application;
3. allow flexible training and assessment in high-quality training environments;
4. avoid duplication with other training products where industry context does not require it;
5. reduce specificity except where a higher level of detail is required for licencing, high-risk, safety, regulatory or graduate quality reasons; and
6. consider and integrate foundation skills, general capabilities, and knowledge progression

The PSC and other stakeholders consulted during the project supported the design principles and felt that they could enable better qualification outcomes.

Mining and Automotive Skills Alliance

Principle 1

Principle 1 was seen as the hardest to achieve as it would involve a completely new approach to the design of training products and the development process used by Jobs and Skills Councils (JSCs). The current unit of competency template has devolved into a task-based description of work in a job role and is not reflective of the skills that are required to be effective in the workplace at industry level or across industries. Training packages across industry sectors therefore have substantial duplication (Principle 4). As an example, consider the use of hand tools. There are 27 current units of competency or modules relating to using hand tools across 10 Training Packages and a suite of accredited courses. They are:

National Code	National Title	NRT Type
ACMFAR318	Repair and manufacture hand tools used in farriery	Unit of Competency
AHCPER222	Use and maintain basic hand tools and equipment for garden and farm	Unit of Competency
AURVTK001	Use and maintain vehicle body repair hand tools	Unit of Competency
CPCCDE3017	Select and use hand tools and equipment for demolition tasks	Unit of Competency
CPCCDE3019	Demolish small buildings and structures using hand tools and small plant and equipment	Unit of Competency
DEFWDV029	Employ hand tools in an underwater environment	Unit of Competency
MEM18001	Use hand tools	Unit of Competency
MSFFDM4022	Select, use and maintain hand tools for the creation of custom products	Unit of Competency
PMASUP245	Break and make flanged joints using hand tools	Unit of Competency
TLIB0012	Maintain and use hand tools	Unit of Competency
VBN678	Maintain Vehicle Body Repair/Making Hand Tools	Units/Modules
VBN698	Hand tools for the joinery/shopfitting/stair-building industry	Units/Modules
VBN705	Wall and ceiling lining hand tools	Units/Modules
VBP535	Maintain, repair and manufacture hand tools used in farriery	Units/Modules
VBQM709	Bricklaying hand tools	Units/Modules
VBQM714	Carpentry hand tools	Units/Modules
VBQM725	Painting and decorating hand tools	Units/Modules
VU20526	Use basic plumbing hand tools	Units/Modules
VU20965	Bricklaying hand tools	Units/Modules
VU20971	Carpentry hand tools	Units/Modules
VU20983	Painting and decorating hand tools	Units/Modules
VU20993	Wall and ceiling lining hand tools	Units/Modules
VU21797	Use basic plumbing hand tools	Units/Modules
VU23054	Use basic plumbing hand tools	Units/Modules
VU23070	Select, use and maintain hand tools and equipment for concrete drilling and sawing	Units/Modules
VU23475	Safely use hand tools and hand-held power tools for general engineering applications	Units/Modules

Designing training products that meet principle 1 will require the JSCs to work as a cohort rather than individual entities for a substantial portion of their work. This raises questions of stewardship and funding for the JSC model. Design principle 1 will also require a broad range of industries to agree on the definition of the skills that support work in their sector. This is an extensive change to the current VET system in Australia that is also explicitly linked to industrial awards in several industry sectors. The work of Jobs and Skills Australia on developing a national skills taxonomy would support the use of principle 1. In response, this project has developed a job profile.

Principle 2

Principle 2, 'placing equal importance on skill, knowledge, and application' was seen as very positive because the lack of knowledge in graduates is a challenge for the industry. The principle should enable the training products to be constructed in a way where the knowledge requirements are integrated and not a separate long list with no context to guide their application. In response to this principle, the project has developed competency standards and an RTO implementation guide

Principle 3

RTO quality was at the core of many discussions during the 2-day workshop and will likely be an inhibitor for acceptance of principle 3 to "allow flexible training and assessment in high-quality training environments". Trust between RTOs and industry in many cases has been eroded and the relationships between the stakeholders at all levels, commonwealth, state, and within organisations will need to be nurtured to build trust and achieve the reform outcomes.

The project has developed an RTO implementation guide in response to these principles and feedback from all project stakeholders. The implementation guide is intended to work alongside the revised RTO regulation – specifically standard 1.1 which focuses on the quality of training.

It is important to acknowledge that improving RTO quality will be achieved by enhancing capability in the sector and more effective regulation rather than qualification reform.

Principle 4

Principle 4 - The duplication in training products also exists within Training Packages. The AUR Training Package is challenged in this respect as there is substantial duplication in unit content across units, as well as duplication of units included in qualifications at different (Australian Qualification Framework (AQF) levels. Units addressing safe work practices, tool usage, communication, and measurement could easily be combined to reduce duplication in the Certificate II qualifications. The same units are also core units in the current Certificate III qualifications leading to licensed trades. Technical units such as 'Inspect and Service' units or 'Diagnose and Repair' units are very repetitive, with the only real difference being the system-specific knowledge that underpins the task on different automotive systems.

There are 33 current Inspect and Service units in the AUR Training Package. All have the element structure:

- Prepare to inspect and service 'the system'
- Inspect 'the system'
- Service 'the system'
- Complete work processes

All the 33 units include knowledge about:

- locating and interpreting information
- workplace procedures
- examination of tools and equipment
- storage of equipment
- identification, tagging and isolation of faulty equipment
- disposal of excess materials
- recycling procedures
- work health and safety (WHS) requirements
- environmental requirements
- Inspection procedures
- service and adjustment procedures
- post-service testing procedures

as well as:

- identification and function of parts within 'the system'

The opportunity for rationalising the units, not only across the purpose 2 qualifications but also across the training package, is substantial. This project has been guided by this principle in the design and development of the Competency Standard.

Principles 4 and 5

Principles 4 and 5 relating to the reduction of duplication and reducing specificity except where a higher level of detail is required for licencing high-risk, safety, regulatory or graduate quality reasons could certainly be challenging to achieve as graduate quality is cited as the driver for much of the over-specification that currently exists in all qualifications.

Principle 6

Principle 6 focusing on foundation skills, general capabilities and knowledge progression was also welcomed by the stakeholders for this project. The PSC felt that the current training provided through the secondary school system, prevocational training and pre-apprenticeship training did not prepare the learners for entry to a trade. They identified literacy, numeracy and the general capabilities (expressed as enduring skills) of the learners as being particularly poor and limiting for both learners and industry. Discussions with all stakeholders identified that existing frameworks, namely the Australian Core Skills Framework (ACSF) and Core Skills for Work (CSfW) were poorly understood by Training Providers, difficult to follow and hard to implement consistently. The expression of the foundation skills at an outcome level in units of competency rather than an entry-level also meant that RTOs would enrol learners who were not capable of participating effectively in the training and assessment process and the trainers and assessors did not have the skills to support the learners.

There was significant discussion about where foundation skills should be expressed with the PSC determining that foundation skills are most appropriately expressed at a job level. This translated to this project expressing the foundation skills at a qualification level using a rubric. The foundation skill information is in the RTO implementation guide.

With regard to enduring skills, the CSfW framework was viewed by the PSC as inadequately addressing the skills or capabilities needed in a modern workplace. The PSC also felt that STEM skills were lacking in entrants and graduates from VET qualifications and made specific mention of:

Enduring Skills

- Growth mindset – principles of learning, continuous learning, and life skills
- Agility – the ability to adapt using different techniques
- Critical thinking – being able to source reliable and meaningful information and use it to solve problems
- Decision making – reading flow charts and following procedures to achieve tasks, knowing how to respond when contingencies arise
- Creativity – brainstorming, investigation, open-ended questions, looking for novel solutions (accessories, lights, internal and external cosmetics)

STEM Skills

- Analytical skills - Analysing and interpreting information and assessing the best course of action.
- Scientific skills - Breaking down scientific concepts and systems.
- Mathematical skills - Accurately gathering and analysing data. Applying simple and complex equations to solve problems.
- Technical skills - Troubleshooting and debugging a technological system or repairing a machine.
- Critical thinking, statistics, engineering-design thinking, problem-solving, creativity

There is an overlap between these two lists and some alignment with the CSfW framework, but incorporating these skills into the training product developed was critical for the PSC. The project has responded by including approaches and exercises that develop these skills in the implementation guide. The majority of stakeholders viewed the principles as supporting the needs of industry because they would result in better outcomes for learners.

Industrial Relations Implications

The AMWU raised concerns about potential unintended industrial relations implications regarding the impact on skill-based pay progression within industry awards. The AMWU pointed out that the 4 main awards that their membership falls under all have skill-based pay progression that is linked to AQF qualifications. They are:

- Manufacturing and Associated Industries and Occupations Award
- Graphic Arts, Printing and Publishing Award
- Food, Beverage and Tobacco Manufacturing Award
- Vehicle Repair, Services and Retail Award

Each of these awards has a skill requirement or definition for each classification level in the applicable award.

The qualifications included in this project link to the Vehicle Repair, Services, and Retail award. In this award, Certificate III is at level 6, with the lower classification levels having a specified number of modules for each level; see the example below.

> ***Vehicle industry RS&R—employee—Level 4 R4***
>
> *An employee at this level performs work above and beyond the skills of an employee at Level R3 and would normally have completed 16 modules of a nationally accredited RS&R Certificate or equivalent training.*

At the completion of the project consultation, the AMWU remained concerned and stated that any changes to the structure or requirement for a unit of competency from qualifications reform would have potential unintended consequences for the award structures and relativities with these classification structures. Given the AMWU's position, their concerns have been carefully considered and addressed in recommendation 1 of this Report.

Implementing the Proposed Model within the Automotive Industry

The AUSMASA Model

The AUSMASA Model has been developed considering the goals of the reform process and the needs of the sector's 3 primary stakeholder groups: Learners, Industry, and Training Providers. We have also considered how the proposed products would function with existing frameworks within the sector, namely the Australian Qualifications Framework (AQF), ACSF, and CSfW framework. See Figure 1.

The Model has 4 components.

1. A Job Profile
2. A Training Product Description
3. A Competency Standard
4. An Implementation Guide

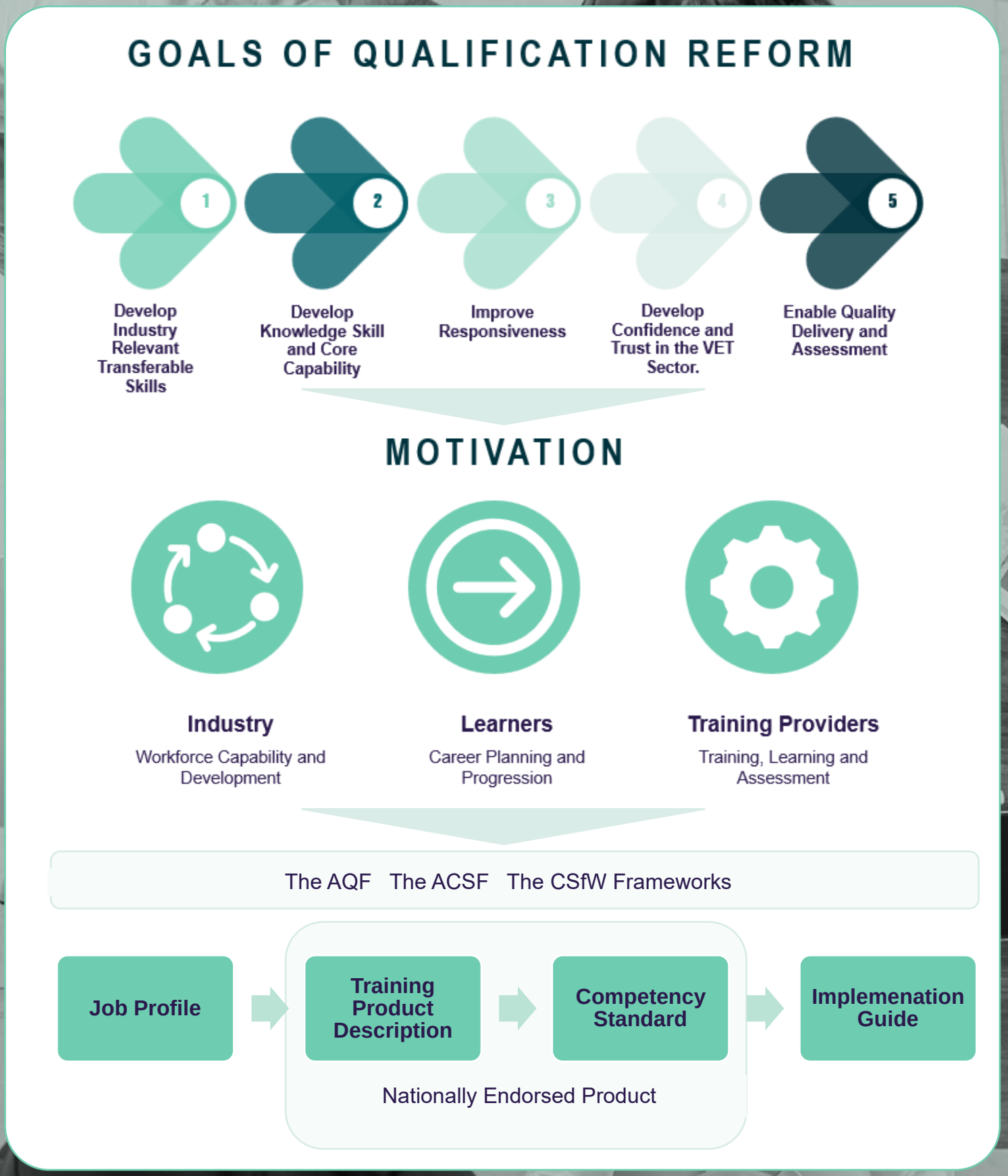


Figure 1. The AUSMASA Qualification Reform Model

The Job Profile is a document that provides high-level information about jobs within industry sectors, the knowledge, skill, and capability required, and, where relevant, licensing and training product requirements. Importantly, the job profile enables industry and learners to compare jobs to establish similarities. See Attachment 1.

The Training Product Description would replace the Qualification Packaging rules and provide RTOs with information about the purpose, structure, and entry requirements of the training product. See Attachment 2.

The Competency Standard would replace the Unit of Competency. It is not task-focused but rather focuses on describing the skill requirements, the knowledge required, and how the skills and knowledge should be applied. See Attachments 3a, 3b, 3c, 3d.

The Implementation Guide is a document for RTOs. It could be incorporated into existing companion volumes or sit as a stand-alone document. The guide has significantly expanded delivery and assessment information and is where industry context is described. See Attachment 4.

The Reasons for Template Change

The PSC and RTO feedback made it clear that new templates are preferred rather than 'tweaking' what already exists. The stakeholders felt that the existing templates would not be able to effectively address the goals of the qualification reform. Specifically, there was concern regarding documenting transferable skills and having coherent descriptions of knowledge and its use in supporting skills and capabilities. The discussions also highlighted that the templates would need to be flexible enough to accommodate knowledge, skills-based outcomes, and work performance standards.

Throughout the project, there has been considerable discussion about the depth of graduates' knowledge and their ability to use knowledge in the workplace. The PSC has considered how to describe knowledge best and whether there are situations in which knowledge would be required without explicit linking to a skill or an application. In all cases in the AUR qualifications, the PSC considered knowledge would be linked to application. The Competency Standard focuses on knowledge and its use, and contextual information is provided in the Implementation Guide.

The PSC also discussed whether there are situations where many "knowledge-based modules" may be linked to a small number of skills and applied consistently. The inspect and service example provided on pages 19 and 20, is one such situation. The Certificate II qualification developed for this project has not faced this challenge. However, reform activities in the Certificate III qualification would need to consider this matter.

The certification approach of training products in the project remains unchanged.

Mining and Automotive Skills Alliance

The Templates

Job Profile – This product isn't part of our current system and would be developed to improve understanding of job pathways and opportunities. The profile would include information about training pathways where it is relevant, and also the foundation skills required in jobs.

Notes	Benefits of Approach	Challenges of Approach
The Job Profile provides workplace-focused information.	• Creates a uniform standard for descriptions of knowledge and skill across industries • Provides clear links to training where it is required • Recognises micro-credentials and industry-based training where they are relevant for a job pathway • Provides better workforce planning, enabling stakeholders to understand skill gaps and design policies that support job creation and training • Makes it clear that licensing is focused on work and where relevant links to a supporting training product.	• Keeping the profiles up to date to reflect changes in technology, practices, and market demands • Bureaucratic complexity driven by developing and maintaining profiles involving complex coordination between levels of government, industry, unions and educational institutions.
The Job Profile provides standardised information across different industries.	• The standardised information provides clarity around career pathways and progression • Supports worker mobility across regions and industries.	

Training Product Description - This provides the structure of the training product, including its purpose, competencies, and pathways for learners. It also addresses entry requirements, including foundational skill requirements assessment guidelines and links to detailed supporting documents.

Notes	Benefits of Approach	Challenges of Approach
The Training Product Description enables us to recognise all types of training products used within the VET system.	• It removes the need to have separate templates for training products that are developed through different processes—Training Package—Accredited Course, where they are all nationally recognised. • Creates the possibility of recognition of micro-	• Consideration of who the approving bodies and processes are for all types of training products

Notes	Benefits of Approach	Challenges of Approach
	credentials where they are relevant for a job pathway.	
The Training Product Description includes a more holistic description of the knowledge and skill outcomes for the product	• Improves the useability of the document or RTOs, specifically not simply used for choosing the list of units to include.	• Funding – *consider funding by milestone or qualification rather than unit.*
The Training Product Description includes an entry profile	• Assists RTOs in planning learners' pathways and support needs • Improves learner outcomes when properly prepared for the qualification.	• Will need to be carefully constructed so that they do not become exclusionary.
The Training Product Description provides links to delivery and assessment information	• Clear advice to RTOs about the implementation of the qualification • Where mandatory requirements exist, they can be documented.	• Possibility of using the supporting documents to address sector challenges when they are better addressed by another means.

Competency Standard - Defines the specific skills, knowledge, and abilities required to perform effectively in the workplace.

Notes	Benefits of Approach	Challenges of Approach
The standard is structured to focus on skills, the knowledge that supports the skill and how it is to be applied.	• The development of knowledge is improved as its application is clear.	• Substantial change from existing task-based granular units *(Change messaging and sector development requirements)*
The standard is industry agnostic; for this example, the skill is required in several industries. There will be some skills that are industry-specific and may reference that industry.	• Reduces duplication across training packages, where relevant • Encourages collaboration between JSCs • Encourages RTOs to work more closely with industry for contextualisation • Increases opportunity for mobility	• The development of the Training Product descriptions becomes critical • RTO capability regarding engagement becomes important<br*(Implementation guide)*
The standard removes the expansive list of knowledge and performance evidence. (*Some specificity in the knowledge and skill can be provided where needed.*)	• Discourages a tick-box approach • Reduces churn in the system • Aligned with the training outcomes required by the new regulatory standards.	• Concern about the content that will be delivered by RTOs as part of the training process *(Implementation guide, Improving Regulation)*

Notes	Benefits of Approach	Challenges of Approach
	(*Compliance required by July 2025*)	
The standard is written in a way that is understandable for all stakeholders.	• Increases engagement and industry ownership	

Implementation Guide—All PSC members and stakeholders agreed that an implementation guide focused on supporting RTOs in implementing a training product is valuable. The document includes ideas about what could and should be included. The focus is on supporting quality implementation.

Notes	Benefits of Approach	Challenges of Approach
The Implementation Guide would be RTO and implementation-focused and separated from the current companion volume information. It would primarily record the structural changes made during the development of the training package.	• A more concise, informative and useable document for stakeholders.	
The Implementation Guide can contain information relevant to the whole training package, a stream of qualifications, or qualification-specific information.	• Versatile and enables RTO to focus on aspects relevant to their scope of delivery but maintain the content of the industry need.	• Need to ensure that the document does not become voluminous
The Implementation Guide can contain the delivery and assessment advice and, where relevant, curriculum or a link to curriculum-type information/products	• Provides industry and educational experts with an opportunity to inform teaching and learning • If well-structured, will support RTOs through the transition from current assessment-focused units to focusing on the tangible knowledge and skill development that is needed. • Provides quality assured advice and resources to RTOs	• Need to ensure that the document does not become a pseudo version of the current assessment requirements • Capacity/capability building for the JSCs, as this teaching and learning focus has not been required in the past.

Mining and Automotive Skills Alliance

The Training Package Organising Framework

The model proposed by AUSMASA would require some changes to The Training Package Organising Framework (TPOF) specifically:

Standards for Training Packages – These will be updated to include the new components and requirements for each component.

Training Package Products Policy – This would be updated to include the new components and requirements for each component.

Training Package Products Development and Endorsement Process Policy - This policy would be updated to include the revised components of the model and adjust the development process to reflect the cross-JSC collaboration required when developing competency standards for skills common to many industry areas.

Recommendations

To support JSCs in implementing a new model, the government should consider and formally respond to the following recommendations to ensure that the transition is effective, scalable, and aligned with industry needs. This will ensure that stakeholder feedback and concerns can be adequately addressed prior to a decision regarding implementation.

Foster Industry Partnerships and Collaboration

Recommendation 1: Industrial Relations – Prior to a decision being made in relation to the project, it is recommended that enabling activities be initiated to investigate the size and complexity of any barriers to qualification reform. This assessment should aim to minimise any disruption to the current harmonious industrial relations landscape in Australia. This recommendation serves as a preliminary and conditional step to guide the next stages of the reform process.

Recommendation 2: Broader barriers to implementation

In addition to industrial relations concerns, it is recommended that a comprehensive review be conducted to address other key barriers to implementing qualification reforms, as outlined in this report. These barriers, raised by stakeholders, include challenges related to systemic issues that could affect the success of the reform.

Recommendation 3: Industry Collaboration for Implementation Guide Development – Facilitate partnerships between JSCs, industry, and educational providers to co-design standards and supporting implementation guides that reflect real-world skills, knowledge, and capability needed in various sectors. This collaboration ensures that training is closely aligned with the evolving needs of the workforce.

Mining and Automotive Skills Alliance

Pilot Programs and Scalable Models

Recommendation 4: Pilot Program - Fund pilots to test possible implementation. These pilots can provide insights into best practices and potential challenges and ensure the model is scalable across industries and adaptable to different types of learners, from school leavers to adult workers seeking retraining.

Provide Funding and Resources

Recommendation 5: Direct Financial Support - Allocate targeted funding to JSCs to develop and fully test reform models. This could include funding a trial project to progress the demonstration project and developing new implementation guides, training materials, and assessment tools as a starting point**.**

Recommendation 6: Support for Registered Training Organisations - Provide funding for upskilling RTOs, trainers, and assessors, ensuring they can adapt and deliver quality education effectively if a new model is implemented. This links with national messaging and JSC collaboration.

Promote the New Model and Raise Awareness

Recommendation 7: Engagement with Stakeholders - Actively engage with key stakeholders such as RTOs, industry bodies, unions, and state and territory authorities to ensure widespread understanding and support for qualification reform.

Recommendation 8: National Messaging - Provide consistent messaging nationally to promote the reform's benefits, highlighting its relevance to job seekers, communities**,** and employers. This must include clarity around the end goal of reform activities and could include case studies, success stories, and industry endorsements. The messaging will need to adopt a range of formats for a range of audiences.

Recommendation 9: Share Best Practices: Create platforms for sharing insights and lessons learned from any pilot programs. This could include the cross-functional JSC teams that would be required as well as more broadly with the VET sector and Industry.

Mining and Automotive Skills Alliance

Barriers to Implementation

Making changes in a system that has undergone extensive reform efforts without delivering tangible benefits in the view of many stakeholders is particularly challenging due to systemic inertia, reform fatigue, complexity, and a lack of trust in the process. During the AUSMASA project, stakeholders consistently raised eight key challenges that the QRDG must address, and broader support from all stakeholders will be essential to ensure the successful implementation of the reform model

Industrial Awards

The PSC included AMWU union representation, and the issue of linkage between the current units of competency and competency-based pay progression in various awards has been raised. The degree of linkage and specification in the awards does differ, with most referring to a level of AQF qualification as the benchmark for pay progression. However, there are awards such as the Manufacturing and Associated Industries and Occupations Award that refer to specific point values attached to a unit of competency. As suggested earlier, an approach where a specially skilled team works to cooperatively explore industrial relations implications is recommended. It should also be noted that a number of the awards reviewed included references to superseded and deleted qualifications and used the language of modules. The reform process could be viewed as an opportunity to adopt a consistent and current approach across the modern awards, maintaining competency-based progression.

Funding

There was broad agreement that current funding models can influence what training is completed, rather than industry need being the driver for participation in training. The stakeholders highlighted that because funding is determined on a state or territory basis any new or consolidated qualifications would require support across the country to ensure that the new model can be effectively implemented. The PSC has highlighted that consolidation of Certificate II AUR qualifications should simplify funding decisions for the States and Territories. It is anticipated that this would also be the case should reform progress across the VET Sector. State and Territory bodies have stressed that there needs to be a degree of flexibility to enable them to respond to jurisdictional needs.

Licensing

National and state-based licensing regimes do have the potential to be impacted by the model, and the PSC felt that licensing in the automotive industry was likely to increase with the introduction of new technologies (for example hydrogen) and the ongoing electrification of plant and vehicles. The Training Package Development Process does require the JSCs to consider licensing requirements, and the Training Products developed would refer to licensing requirements. Across various industries licensing requirements are both very specific, including specific unit codes, and more general, listing, for example, a Certificate II or Certificate III in Body Repair Work.

The proposed model will include training products and competency standards with unique codes that industry regulators may choose to include in their industry requirements. It should be stressed that Training Products are not a compliance tool but rather an educative tool.

RTO Quality Issues

While many RTOs provide quality delivery and assessment, a lack of quality in some RTOs has impacted the knowledge and skills of graduates, undermining industry confidence in the VET system to the point where the industry does not trust the programs' outcomes. This includes both training and assessment.

The current regulatory standards are virtually silent about the quality of training delivery, and this has made the quality of assessment practices critical for ensuring quality outcomes. While yet to be released at the time of this report, the revised training regulation does have a more significant focus on training. The revised regulation provides an opportunity to better support and monitor training outcomes from RTOs. Without question, RTOs will need to be supported to successfully implement the new model and improving RTO quality would include a range of actions that are beyond qualification reform as Training Products are not a tool to manage RTO quality.

Independent assessment

Independent assessment was raised by the PSC as there was serious concern about the quality of assessment conducted by RTOs. The PSC considered independent assessment as a feasible approach to ensure that all graduates met the expectations of industry. Australian examples provided included the capstone assessment model used in the electrical industry and the Journeyman exam in Plumbing. International examples were also provided: the Red Seal exams in Canada and the end point assessments used in the UK. The PSC felt that these models would be an improvement; however, the most beneficial approach for the learners and, as a consequence, RTOs would be for the independent assessment to be conducted throughout the apprenticeships. This model allowed the learners and RTOs to fill any gaps in the candidate's knowledge and skill progressively. The PSC felt the independent assessment model was most aligned with apprenticeships and an important component of skills reform.

Nominal Hours

Completing VET qualifications can contribute to meeting the requirements for a Certificate of Secondary Education in all states and territories. Again, there are differences in the arrangements in each State and Territory. Many rely on nominal-hour arrangements. When changes are made to the training products, consideration must be given to the impact on VET delivered to Secondary School students (VDSS). This should be built into the training product development process for all relevant training products.

Change Fatigue

The VET Sector has been in an almost perpetual state of reform for decades. The impact and fatigue caused by constant and ongoing changes cannot be underestimated when considering how any change implementation is to be managed. The fatigue is exacerbated when stakeholders cannot clearly see how the change will happen, what the tangible improvements are and how their needs will be met.

Structural Issues

The stakeholders consulted for this project have not questioned the need for reform. Most have, however, questioned how the qualifications reform fits with other reform activities in the sector, for example, its governance, funding, and regulation. Communication about how all reform activities will combine to provide positive outcomes for individuals, RTOs, industry, and the broader community needs to be improved.

Supporting the VET Sector during Qualification Reform

Build Trust and Reestablish Confidence

- **Engage Stakeholders Early:** To counter-reform fatigue, the government could involve key stakeholders—such as employees, industry representatives, RTOs, and unions—early in the process, potentially through implementation pilots and policy review. This would build trust and ownership of the change process.
- **Clear Communication:** Transparently communicate the goals, benefits, and rationale for any changes. Make sure that each step is linked to tangible improvements, no matter how small, so stakeholders see the value of their participation.
- **Quick Wins:** Identify and focus on small, visible successes that immediately benefit stakeholders. These "quick wins" can help rebuild confidence in the reform process.

Align Incremental Changes with Long-Term Vision

- **Create a Coherent Vision:** Present any smaller changes as part of a long-term vision or strategy for the system so stakeholders understand how each small step contributes to broader objectives. This ensures that even minor changes are seen as purposeful and connected to long-term benefits.
- **Set Clear Milestones:** Define specific milestones and goals for each phase of change. This allows stakeholders to track progress and see the cumulative impact of small changes over time.
- **Gradual Change:** Introduce changes gradually to minimise resistance. By allowing time for each incremental change to be absorbed and adapted, the system can build momentum for larger reforms
- **Track and Measure Progress:** Establish systems to collect and analyse data on the impact of any changes. Regularly evaluating the effectiveness of reforms helps identify what works, what doesn’t, and where adjustments are needed.

Strengthen Communication and Coordination

- **Improve Coordination Across Agencies:** Establish strong inter-agency collaboration and communication to ensure consistency in the application of reforms across the sector. This reduces confusion and ensures that changes are aligned across the system.

- **Provide Evidence-Based Feedback:** Use data and metrics to demonstrate the tangible benefits of the changes. Sharing success stories backed by data helps to reassure stakeholders that the reforms are producing real results.
- **Engage Champions of Change:** Identify and empower "change champions" within the system—individuals or organisations that are enthusiastic about reform. They could serve as role models and influencers, helping to build broader support for change.

Provide Adequate Resources

- **Ensure Proper Funding:** Change often fails due to lack of adequate funding or resources. The government must allocate sufficient financial and human resources to support each stage of reform.
- **Provide Training and Tools:** Equip stakeholders with the necessary skills and tools to implement and adapt to the changes. This ensures that reforms can be executed effectively at all system levels.

Adapt to Changing Needs

- **Be Flexible:** Ensure that the reform process allows for flexibility and adjustments based on feedback and real-world conditions. Being able to adapt and course-correct helps maintain momentum and ensures that incremental changes remain relevant.
- **Pilot Programs:** Test changes through pilot programs or small-scale implementations before rolling them out system wide. This allows the government to learn from early experiences and refine the changes before broader adoption.


Pistom Head Revison
Due to intrrupted combustion
llow engine oil

Mining and Automotive Skills Alliance

Part B

Outcomes from testing the purpose and principles model.

Data Analysis

Creating a qualification suite to prepare graduates to enter a range of entry-level automotive industry roles required a clear understanding of the industry and the types of roles available.

AUSMASA's initial workforce plan identified the top 20 operational occupations for the automotive industry (Figure 2). The shaded occupations are not pathways or job opportunities that are possible from the suite of Certificate II qualifications.

Figure 2: Top 20 operational occupations within the automotive industry

Code	Occupation
321211	Motor Mechanic (General)
621311	Motor Vehicle Or Caravan Salesperson
811111	Car Detailer
324111	Panelbeater
142111	Retail Manager (General)
324311	Vehicle Painter
899415	Tyre Fitter
321111	Automotive Electrician
323211	Fitter (General)
149212	Customer Service Manager
131112	Sales and Marketing Manager
832211	Product Assembler
324211	Vehicle Body Builder
321212	Diesel Motor Mechanic
611313	Sales Representative (Motor Vehicle Parts and Accessories)
322311	Metal Fabricator
321213	Motorcycle Mechanic
899411	Motor Vehicle Parts and Accessories Fitter (General)
233512	Mechanical Engineer
899412	Auto Glazier

Source: Kienco. 2023. Workforce insights derived from the 2021 Census. Melbourne, Victoria, Australia

The consultation highlighted that the most common outcome of a Certificate II qualification was to gain an apprenticeship. This was supported by AUSMASA's initial workforce plan, which identified that industry feedback consistently credited the numerous school-based career preparation and pre-apprenticeship programs with helping to attract new industry entrants.

Discussions with industry body representatives and industry suggested that there were limited job opportunities for graduates of a Certificate II qualification as skilled employment was achieved after

completion of a Certificate III qualification. Figure 3 shows how the skilled occupations are clustered into employment streams.

Figure 3: AUR Job Groupings – Skilled Employment

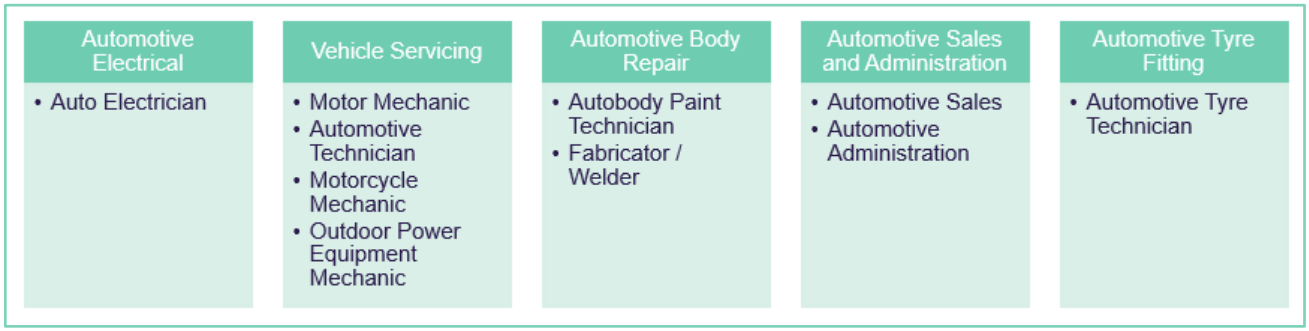
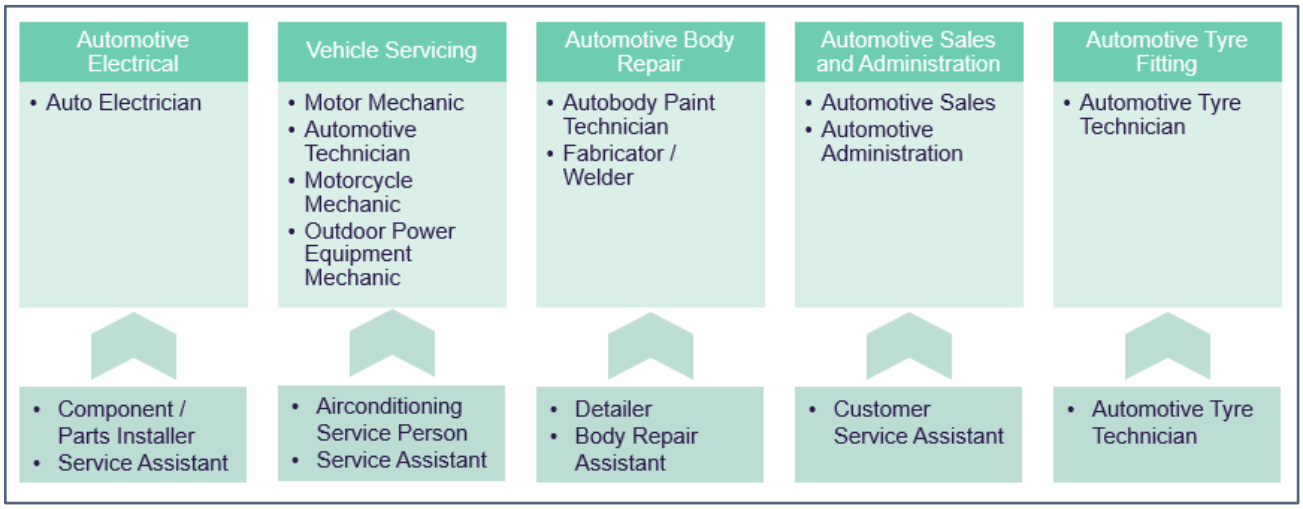


Figure 4 shows the likely job outcomes from a Certificate II qualification, including the pathways that graduates can take to skilled employment.

Figure 4: AUR Job Pathways to skilled employment



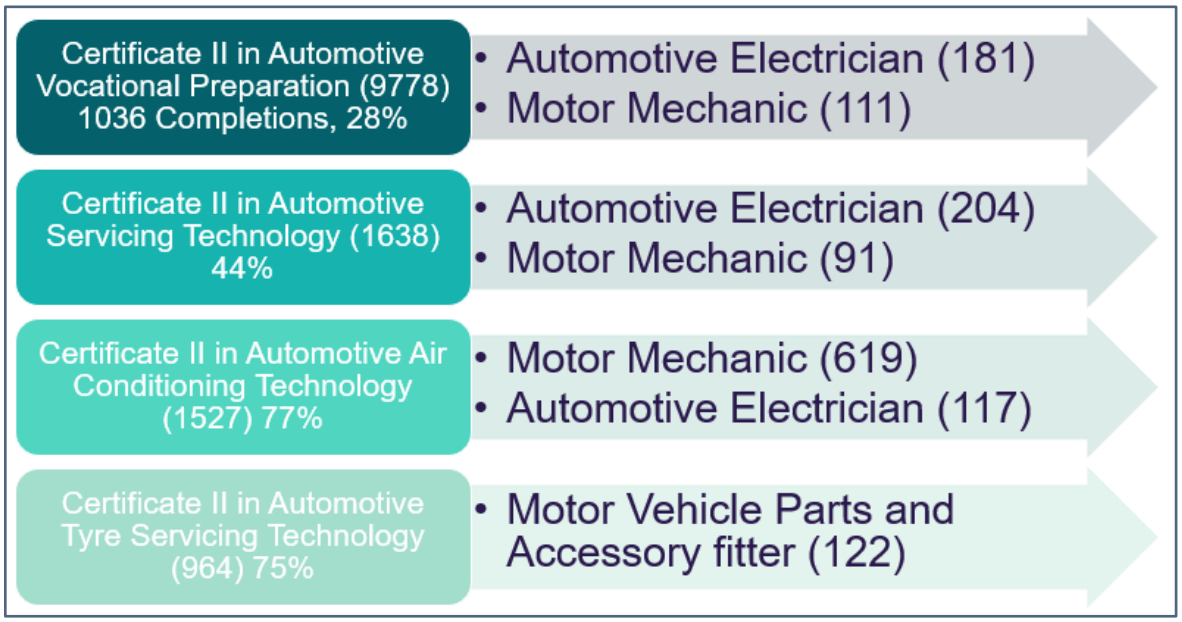
The consultation highlighted that skilled employment in the industry requires a Certificate III qualification, with 2 exceptions: the Automotive Tyre Technician and Automotive Air Conditioning Serviceperson. Both job outcomes require a Certificate II qualification.

The VET National Data Asset (VNDA) pathways analysis was then used to validate the information provided through the consultations. The data showed that the most common job destination for graduates of the Certificate II qualifications was an apprenticeship as either a motor mechanic or automotive electrician, see Figure 5. The percentages shown in the data represent the percentage of graduates who were working in an automotive industry job, with the highest reported job outcomes represented in the arrow column.

The Certificate II in Automotive Air Conditioning Technology is most commonly completed as a post-trade qualification, explaining the high % of graduates working in a trade occupation. The Certificate II in Automotive Tyre Servicing Technology also has a high number of graduates working in the sector as the skilled job outcome is achieved from the Certificate II.

The work related to both qualifications is also subject to licensing requirements. The remainder of the qualifications in the project had no reported job outcomes in the VNDA data. AUSMASA's consultation for the initial workforce plan also identified that some parts of the industry feel that the current qualifications do not do enough to promote the full breadth of career opportunities available, such as auto electrics and panel and paint. Instead, they are criticised for focusing too heavily on the motor mechanic stream.

Figure 5: Job Destinations from the Qualifications



The job analysis showed that the job pathways from the suite of Certificate II qualifications are limited. The most common outcome is that the graduate is employed as an apprentice.

Enrolment Data

The enrolment data for the suite of qualifications was reviewed over the five-year period 2018 – 2022. The 2022 data are shown in Figure 6.

The Certificate II in Automotive Vocational Preparation has the largest number of enrolments. This qualification is exclusively delivered by VET Delivered to Secondary Students (VDSS) in each state except South Australia, where the qualification Certificate II in Automotive Servicing Technology is the VDSS pathway.

Four of the qualifications show no delivery. Of those, the Certificate II in Accessory Fitting is a new qualification and as a result, there was no NCVER data on enrolments available. One RTO had the qualification on their scope at the time of this report.

Figure 6: 2022 Enrolment data for Certificate II AUR Qualifications

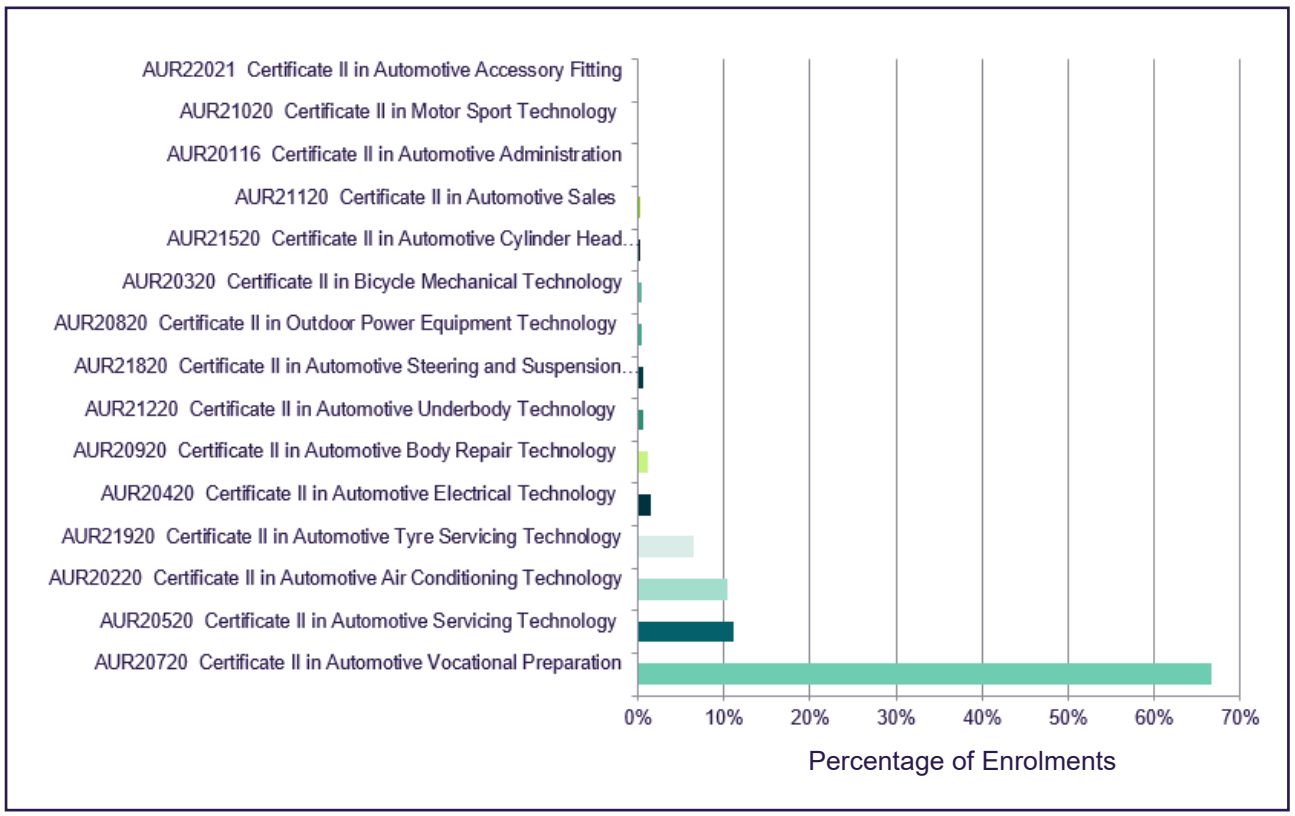
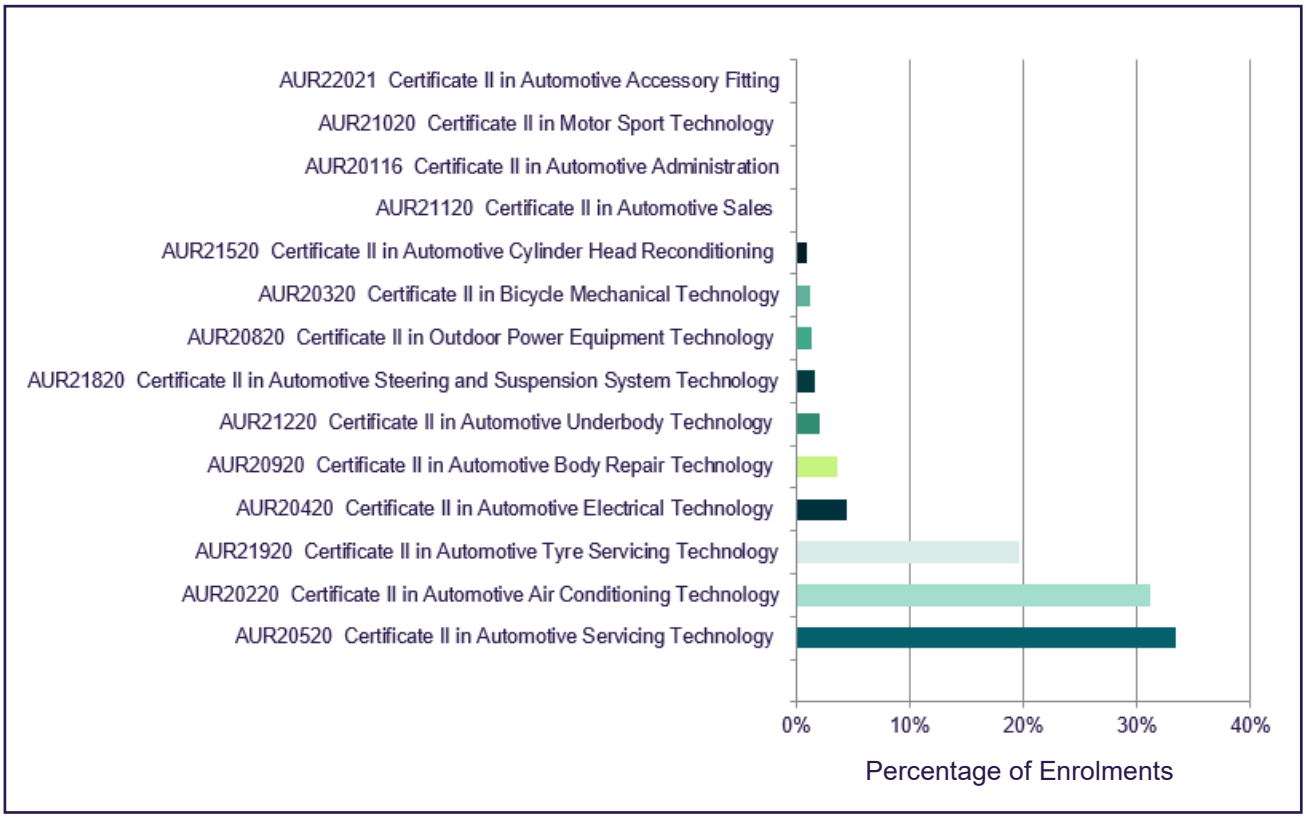


Figure 7 shows the enrolment data without the vocational preparation qualification. The data shows that the qualifications with a clear job outcome for the sector have the highest enrolment numbers, although they are still low (between 1000 and 1500 nationally).

Figure 7: 2022 Enrolment Data for Certificate II AUR Qualifications – Without the Certificate II in Automotive Vocational Preparation.



The enrolment patterns in qualifications across the 5 years were also reviewed, the data included all versions of the qualifications from 2016-2022. See Figure 8. This data showed that there was a distinct split in the enrolment patterns with approximately half the qualifications showing increasing enrolments and half showing decreasing enrolments. The greatest increase was in Certificate II in Automotive Electrical Technology. This is a skills shortage area; it should be noted that the qualification still has low enrolment numbers with 221 enrolments in 2022. Again, the qualifications that lead directly to a job outcome had the largest percentage increase in enrolments.

The Certificate II in Automotive Steering and Suspension System Technology is linked to a work license in NSW, the program only had 80 enrolments in 2022. Figure 9 shows the enrolment numbers across all qualifications in 2022.

The analysis of the qualification enrolment data showed that the enrolment patterns were focused on two outcomes, a direct employment pathway or a preparatory VDSS outcome that most commonly leads to an apprenticeship.

Figure 8: Percentage change in enrolments between 2018 and 2022.

Certificate II in Automotive Electrical Technology *	105%
Certificate II in Automotive Steering and Suspension System Technology *	70%
Certificate II in Automotive Tyre Servicing Technology	41%
Certificate II in Automotive Vocational Preparation	33%
Certificate II in Automotive Air Conditioning Technology	17%
Certificate II in Automotive Servicing Technology	7%
Certificate II in Automotive Accessory Fitting	0%
Certificate II in Automotive Administration	0%
Certificate II in Automotive Body Repair Technology *	-19%
Certificate II in Bicycle Mechanical Technology	-32%
Certificate II in Automotive Sales	-50%
Certificate II in Automotive Underbody Technology *	-62%
Certificate II in Outdoor Power Equipment Technology	-63%
Certificate II in Automotive Cylinder Head Reconditioning	-82%
Certificate II in Motor Sport Technology	-100%

Similarity Analysis

The qualifications were then reviewed to establish the level of similarity between the tasks required in the jobs and the Units of Competency included in the qualifications. The data used for this analysis came from three sources: the qualification packaging rules for the qualifications, a collection of over 200 job advertisements on Seek and the Skills Similarity Dashboard provided by DEWR.

The qualification packaging rules include 195 unique units of competency of which 24 units are imported from 6 other training packages (BSB, MEM, MSM, RII, SIR, TLI). The imported units had no enrolment in 2022. There were only 43 units that had any significant (more than 100) enrolment in 2022 across the suite of qualifications, 20 of the units had more than 500 enrolments. They are shown in Figure 9.

Full enrolment data can be found in Appendix 2b. Please see tabs: ‘Unit Enrolments by Qual’ and ‘Unique Units VACC Group 3’.

Figure 9: Qualification suite 2022 Enrolments.

Certificate II Qualification Enrolments 2022	Enrolments	Percentage of Enrolments
AUR20720 Certificate II in Automotive Vocational Preparation	9778	67%
AUR20520 Certificate II in Automotive Servicing Technology	1638	11%
AUR20220 Certificate II in Automotive Air Conditioning Technology	1527	10%
AUR21920 Certificate II in Automotive Tyre Servicing Technology	964	7%
AUR20420 Certificate II in Automotive Electrical Technology	221	2%
AUR20920 Certificate II in Automotive Body Repair Technology	176	1%
AUR21220 Certificate II in Automotive Underbody Technology	103	1%
AUR21820 Certificate II in Automotive Steering and Suspension System Technology	80	1%
AUR20820 Certificate II in Outdoor Power Equipment Technology	69	0%
AUR20320 Certificate II in Bicycle Mechanical Technology	64	0%
AUR21520 Certificate II in Automotive Cylinder Head Reconditioning	49	0%
AUR21120 Certificate II in Automotive Sales	6	0%
AUR20116 Certificate II in Automotive Administration	0	0%
AUR21020 Certificate II in Motor Sport Technology	0	0%
AUR22021 Certificate II in Automotive Accessory Fitting	0	0%
Total Enrolments	**14675**	

The qualifications have substantial overlap in the units that are included. This can be most clearly seen in Appendix 2b, Tab 'Units across Quals by C or E'. The units in Figure 10 are the units that are either core or elective in the majority of the qualifications.

Figure 10: High Volume AUR Unit Enrolments for 2022.

Unit code and Title	Enrolments 2022
AURASA102 - Follow safe working practices in an automotive workplace	2035
AURAEA002 - Follow environmental and sustainability best practice in an automotive workplace	2020
AURTTK102 - Use and maintain tools and equipment in an automotive workplace	1925
AURATA001 - Identify basic automotive faults using troubleshooting processes	1625
AURETR115 - Inspect, test and service batteries	1340
AURAFA103 - Communicate effectively in an automotive workplace	1215
AURTTA104 - Carry out servicing operations	1185
AURTTE104 - Inspect and service engines	1135
AURTTD004 - Inspect and service suspension systems	1100
AURTTD002 - Inspect and service steering systems	1090
AURTTB101 - Inspect and service braking systems	1045

Unit code and Title	Enrolments 2022
AURTTC001 - Inspect and service cooling systems	1025
AURLTJ113 - Remove, inspect and refit light vehicle wheel and tyre assemblies	1010
AURTTJ011 - Balance wheels and tyres	990
AURLTJ102 - Remove, inspect, repair and refit light vehicle tyres and tubes	970
AURTTQ001 - Inspect and service final drive assemblies	830
AURTTQ103 - Inspect and service drive shafts	815
AURLTJ011 - Select light vehicle wheels and tyres	770
AURAFA002 - Read and respond to automotive workplace information	565
AURAFA001 - Use numbers in an automotive workplace	555

The packaging of units in the Certificate II qualifications also has significant overlap with the Certificate III qualifications that are purpose 1 trade qualifications. Two examples have been developed, namely:

1. AUR20420 Certificate II in Automotive Electrical Technology aligned to AUR30320 - Certificate III in Automotive Electrical Technology.
2. AUR20520 - Certificate II in Automotive Servicing Technology aligned to AUR30620 - Certificate III in Light Vehicle Mechanical Technology

For both qualifications, 6 of the elective units for Certificate III can come from Certificate II. With the additional overlap in the core units, it is possible that up to half of the required units for Certificate III are completed in Certificate II. Please see Appendix 2b, Tabs 'AUR20420 AQF Overlap' and 'AUR20520 AQF Overlap'.

While this may seem advantageous, the PSC highlighted the industrial challenges that the overlap creates. Specifically, the Certificate II units are undertaken in an institutional environment with little to no workplace experience. The credit that is granted for completed units means that individuals must be paid as second-year apprentices, but they do not have the knowledge, skill or workplace experience of a second-year apprentice and do not perform as second-year apprentices.

Employers included in the consultation explained that they would prefer a student to have limited or no credit into the Certificate III qualifications primarily because of the lack of application of the knowledge and skills in the workplace. They felt that this was a significant disadvantage for the learners, and as a result, their employment choices were often targeted at learners who could complete the full Certificate III as an apprenticeship. This was reinforced with discussions with VET in Schools Coordinators in WA. They explained that their graduates had difficulty in securing apprenticeships after completing the Vocational Preparation qualification.

However, the employers did suggest that the most beneficial outcome from a Certificate II qualification would be teachable learners. By this, they meant learners with strong literacy and numeracy skills and readiness for the workplace.

The analysis of the qualification packaging rules showed significant overlap and similarity between the qualifications. This resulted in substantial enrolment in only 20 units of competency in 2022.

DEWR has provided AUSMASA with access to a Skills Similarity Dashboard. The data is drawn from a prototype taxonomy based on the Australian Skills Classification and includes common specialist tasks as well as licensed specialist tasks. The data has not been validated by industry; however, it has been useful in this project to identify units where there is a possibility of significant content/task overlap. For example, the common specialist task 'Remove parts or components from vehicles' is aligned with 25 units of competency. Please see Appendix 3, Tab 'Specialist Task to Units' and Figure 11.

Figure 11: Specialist Tasks Linked to Multiple Units

Common Specialist Task	Number of Units
Remove parts or components from vehicles	25
Replace or repair non-engine automotive or vehicle components	12
Service vehicles	12
Adjust vehicle components according to specifications	11
Inspect vehicles to determine overall condition	11
Install vehicle parts or accessories	9
Clean vehicles or vehicle components	8
Replace vehicle glass	8
Repair parts or assemblies	7
Weld metal components	7

The specialist tasks in Figure 11 align well with the tasks included in the most commonly delivered 'inspect and service' units in Figure 10.

The analysis of skills similarity showed significant similarity in the skills linked to units of competency. The common specialist skills also aligned well with the high-volume delivery units of competency.

Job Advertisements for Entry Level Automotive Roles

Analysis of 200 job advertisements has been undertaken to determine a suite of roles and responsibilities supported by knowledge and skills that would support entry to a generic automotive job role. The job advertisements included all advertisements in the week of 13-17th May and covered the roles of:

- Tyre Fitter
- Parts Fitter
- Service Person.

A job profile was created for each role, and then a consolidated job profile was created. These can be found in Appendix 4. The consolidated profile has 7 core areas of responsibility that again align well with the specialist tasks and the high-volume units of competency delivered across the qualifications.

The areas of responsibility are below:

Servicing and Maintenance

- Refuelling and Scheduled Servicing

Fitting and Installation

- Fitting Accessories
- Fitting Electrical Components/Wiring
- Fitting Additional Vehicle Parts

Technical Support and Diagnostics

- Sourcing Technical Information
- Use diagnostic tools to identify and troubleshoot issues.
- Diagnosing and Repairing Issues

Preventative Actions and Problem Resolution

- Preventative Maintenance
- Problem-Solving

Quality and Safety

- Safety and Environmental Compliance

Customer Service and Communication

- Customer Interaction

Collaboration and Professional Development

- Team Collaboration
- Continuous Learning

The analysis of job advertisements showed significant similarity in the responsibilities of job roles and the knowledge and skills required for the workplace. The consolidated job profile aligned well with the previous similarity analysis.

The Two-Day PSC Workshop

The PSC met for 2 days in Melbourne to validate all of the initial data analysis and determine a possible suite of purpose 2 qualifications that would support the automotive industry. All data provided to the PSC is in Appendix 2a and 2b.

The initial assumption was that the project qualification suite were all potential purpose 2 qualifications. A review of the data and discussion during the workshop identified that this might not be the case, as the majority of the qualifications had been designed for a specific automotive industry role rather than one that could lead to a range of roles in the sector. Three qualifications were identified immediately as not fitting the definition of purpose 2 as they led to specific job outcomes and were linked to various licensing requirements. They are:

- AUR20220 Certificate II in Automotive Air Conditioning Technology
- AUR20520 Certificate II in Automotive Servicing Technology
- AUR21920 Certificate II in Automotive Tyre Servicing Technology

The Certificate II in Automotive Tyre Servicing Technology generated significant discussion with agreement that it was incorrectly placed at a Certificate II and AUSMASA as the JSC would conduct further investigation into the scope and AQF level of the qualification.

The PSC discussed the needs of industry in significant detail and whether any or all of the remaining qualifications met those needs. The only qualification that was seen as being beneficial was the Certificate II in Automotive Vocational Preparation. The PSC also noted, however, that while the qualification was a good tool for engaging VDSS students, this qualification did not develop the generic skills in learners that are required to be successful in the automotive sector.

There was significant discussion about the impact changing and new technologies are having on the industry and, subsequently, the knowledge and skills that workers require. Specifically, much higher levels of literacy, numeracy, and digital skills are required, as well as communication and collaborative skills. The group also raised ‘Enduring Skills’. These were a set of skills or capabilities considered by the group to be essential to being an automotive worker of the future.

The PSC sees workers in the automotive industry and the economy as a whole as needing more and more new skills that need to be refreshed more and more often. In this environment, the enduring skills underlie the ability to learn, apply, and adapt.

The enduring skills seen as important for this project include:

- Employability skills
- Growth mindset
- Customer Centricity
- Tech savviness
- Collaboration
- Critical thinking
- Decision making
- Creativity

There was broad agreement that a new ‘true’ purpose 2 qualification should be developed for the automotive industry.

> *The PSC considers enduring skills as important to a worker of the future and the automotive industry as technical knowledge and skills. Therefore, enduring skills should be embedded into any new qualification.*

The PSC then worked in groups to brainstorm what should be included in the new purpose 2 qualification. Appendix 5: Qualification Structure and Content Worksheet—Combined Feedback details the feedback from each of the 4 groups. The content created by the 4 groups was substantially similar, and the subsequent discussions showed that all participants agreed on what should form the basis of a new qualification.

The feedback was consolidated into an initial draft of the content of a new purpose 2 qualification. This was distributed to the PSC on June 7th and agreed to at the July 12th meeting. Please see Appendix 6.

Additional Data Analysis

Following the workshop, additional data analysis was undertaken to determine the impact of funding on the enrolments and the level of enrolments in the Certificate III qualifications for the industry.

The data showed that the enrolment in the Certificate III qualifications was substantially higher than in the Certificate II qualifications, reinforcing that skilled employment in the industry requires a Certificate III qualification. Please see Figure 12.

Mining and Automotive Skills Alliance

Figure 12: AUR Certificate III Enrolments in 2022.

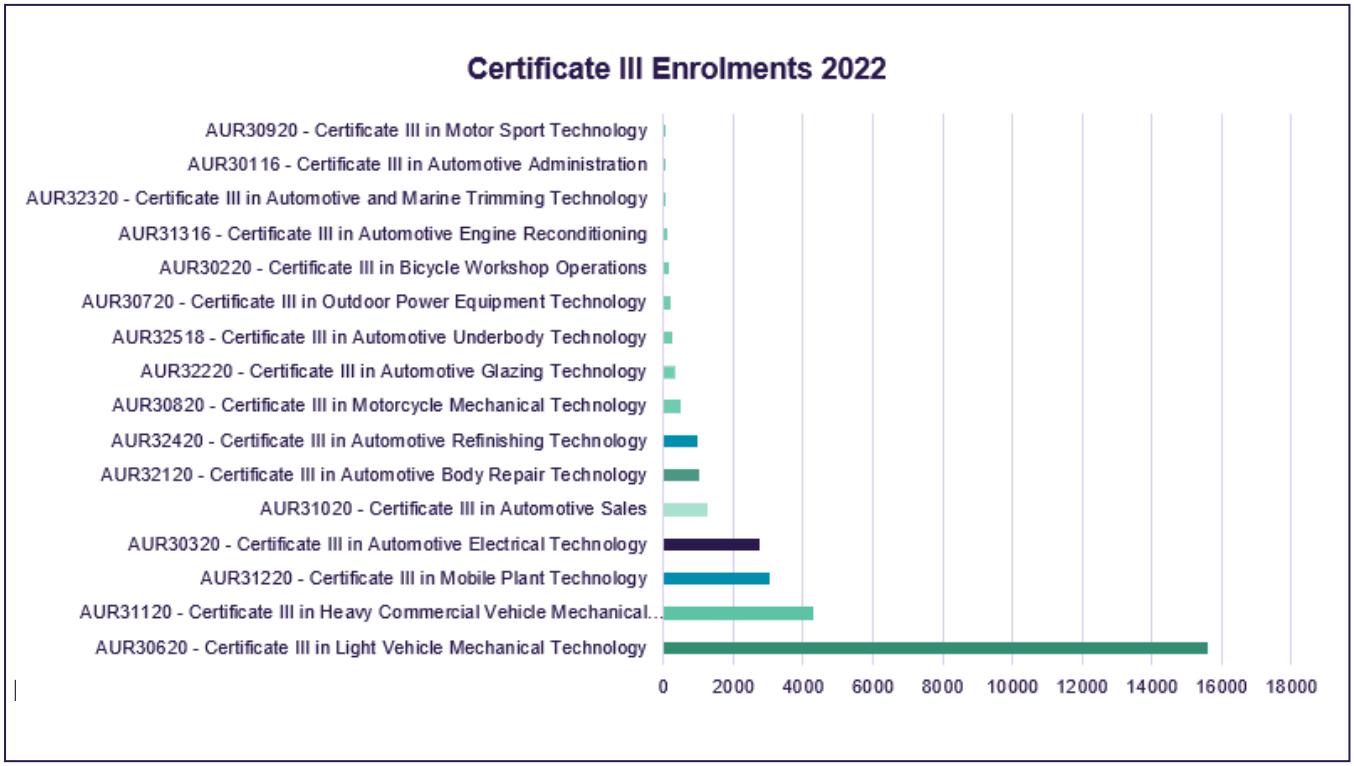


Figure 13: AUR Certificate II Funding Sources 2021 and 2022.

Program name	Highest funding source	2021	2022
AUR20420 - Certificate II in Automotive Electrical Technology	Totals	-	220
	Government funding	-	170
	Domestic fee-for-service funding	-	45
AUR20520 - Certificate II in Automotive Servicing Technology	Totals	105	1,640
	Government funding	85	1,425
	Domestic fee-for-service funding	10	205
	International fee-for-service funding	10	10
AUR20720 – Certificate II in Automotive Vocational Preparation	Totals	825	9,780
	Government funding	780	7,445
	Domestic fee-for-service funding	45	2,335
AUR20820 - Certificate II in Outdoor Power Equipment Technology	Totals	-	70
	Government funding	-	70
AUR20920 - Certificate II in Automotive Body Repair Technology	Totals	45	180
	Government funding	45	170
	Domestic fee-for-service funding	-	10
AUR21016 - Certificate II in Motor Sport Technology	Totals	20	-
	Government funding	15	-

Program name	Highest funding source	2021	2022
	Domestic fee-for-service funding	-	-
AUR21120 - Certificate II in Automotive Sales	Totals	-	5
	Government funding	-	5
AUR21220 - Certificate II in Automotive Underbody Technology	Totals	40	100
	Government funding	30	95
	Domestic fee-for-service funding	5	5
AUR21520 - Certificate II in Automotive Cylinder Head Reconditioning	Totals	-	45
	Government funding	-	45
AUR21820 - Certificate II in Automotive Steering and Suspension System Technology	Totals	25	80
	Government funding	10	20
	Domestic fee-for-service funding	15	60
AUR21920 - Certificate II in Automotive Tyre Servicing Technology	Totals	450	960
	Government funding	85	225
	Domestic fee-for-service funding	365	735

Funding for the Certificate II qualifications is not consistent across the states. PSC members were curious whether this was driving low enrolment numbers.

The data, however, showed that a number of the qualifications with very low enrolments were funded. See Figure 13 (a '–'means no data was available).

The PSC was satisfied that they had all the required data to make decisions about the suite of existing Certificate II qualifications.

During the 7th of June meeting, the PSC was presented with a series of recommendations for each qualification and the data used to support them. See Appendix 7.

The PSC agreed to take the following project actions for the existing suite of Certificate II qualifications

Remove the following qualifications:

- AUR20116 Certificate II in Automotive Administration
- AUR20320 Certificate II in Bicycle Mechanical Technology
- AUR20420 Certificate II in Automotive Electrical Technology
- AUR20820 Certificate II in Outdoor Power Equipment Technology
- AUR20920 Certificate II in Automotive Body Repair Technology
- AUR21020 Certificate II in Motor Sport Technology
- AUR21120 Certificate II in Automotive Sales
- AUR21220 Certificate II in Automotive Underbody Technology
- AUR21520 Certificate II in Automotive Cylinder Head Reconditioning

Remove the following qualification with AUSMASA to investigate an option of a recognised skill set that addresses risks related to steering and suspension if required.

- AUR21820 Certificate II in Automotive Steering and Suspension System Technology

AUSMASA seek state-based enrolment data for 2023 and 2024 to determine if the following qualification is achieving industry outcomes. If not, the qualification is removed. At the time of this report, the 2023 data showed 12 enrolments nationally. All enrolments were in QLD.

- AUR22021 Certificate II in Automotive Accessory Fitting

The following qualification is not included in the project as a purpose 2 qualification. AUSMASA reviews the qualification to investigate the option of a post-trade recognised skill set.

- AUR20220 Certificate II in Automotive Air Conditioning Technology

The following qualification is not included in the project as a purpose 2 qualification. AUSMASA reviews the qualification.

- AUR21920 Certificate II in Automotive Tyre Servicing Technology

The following qualification is not included in the project as a purpose 2 qualification. The PSC considered that the ideal delivery of the qualification is as a traineeship but acknowledged that it must be available using other delivery modes for VDSS and career change students. This qualification is used for the VDSS pathway in South Australia.

- AUR20520 Certificate II in Automotive Servicing Technology

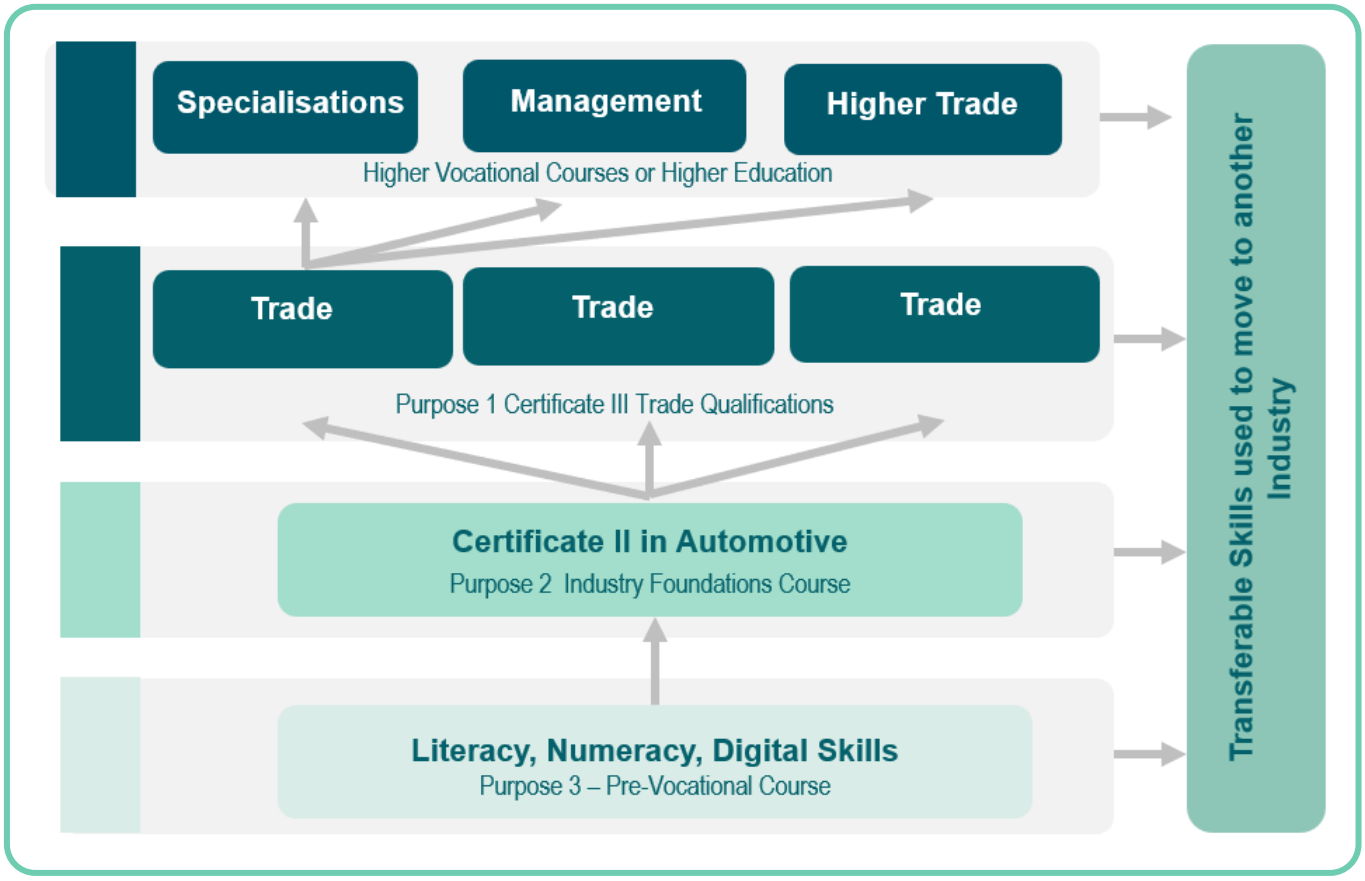
The following qualification is reviewed and rewritten as a true purpose 2 pathway qualification for many roles in the automotive sector. The qualification focuses on knowledge and skills to support the learners to move effectively into a Certificate III qualification in the automotive sector.

- AUR20720 Certificate II in Automotive Vocational Preparation

The revised competency standards have been aligned with the existing qualification; the mapping can be found in Appendix 8.

Mining and Automotive Skills Alliance

The Training Product Pathway Model



Other Issues

The PSC workshop also provided members with an opportunity to raise issues that need further consideration during the project.

Knowledge

When developing the content of the proposed purpose 2 qualification, there was significant discussion about the way in which the qualification should be structured, delivered and assessed. There was broad support for an altered Unit of Competency template that enabled much more information to be provided about knowledge and how the delivery should be undertaken. The PSC discussed the possibility of including curriculum-like documents and using companion volumes to house this information. The desire for curriculum documents stemmed from concerns about quality issues in the RTOs and the capability of existing VET trainers and assessors to develop pedagogically sound learning experiences.

Commercial Training and Assessment Resources Available to the Sector

The quality of commercial learning and assessment materials was raised, again with broad agreement that they did not support the sector and were generally of very low quality. The PSC considered it would be a positive move if the JSC were able to develop high-quality teaching, learning, and assessment materials for the sector. They felt it would help considerably improve consistency in learner outcomes.

Graded Assessment

Assessment approaches were also discussed in detail during the workshop. PSC members considered assessment approaches that would be suitable for use in the new qualification, focusing on project-based and clustered assessment opportunities. There was also significant discussion about whether a competent or not yet competent approach was suitable for a purpose 2 qualification, with PSC members supporting further investigation of how to define levels of performance. This is an approach used in many school-based, higher education and professional learning frameworks and could include performance levels such as:

- Emerging
- Developing
- Applying
- Exceeding

The PSC felt that this type of approach used throughout the qualification would also provide a useful tool to structure feedback to the learner throughout the course and for the RTO to adapt teaching strategies to support learners' needs. Two rubrics, one for the development of foundation skills and one for a technical area, have been developed as part of the project and are housed in the Implementation Guide.

Credit

The PSC were united in the opinion that learners graduating with an AUR Purpose 2 qualification should not have credit into the Purpose 1 Certificate III qualifications. The main credit issues were that the Purpose 2 qualifications are delivered primarily in an institutional context, with the Certificate II in Automotive Vocational Preparation exclusively in schools. The lack of workplace experience then causes industrial issues when the credit granted means the learner has to be paid as a second-year apprentice but cannot perform as a second-year apprentice. This was seen as disadvantageous to both the learner and the employer.

The PSC does not suggest that credit be limited generally but that, in this case, the qualification that is developed should be foundational.

Work Placement

Work placements were also discussed as a possible inclusion in the proposed qualification. The work placement would be considered phase 2 of the qualification and not impact the completion of the content included in Appendix 6. If further reform activities are progressed, this idea will be investigated further.

Mining and Automotive Skills Alliance

The AQF

The PSC does not foresee any challenges using the proposed model with the AQF.

Project Deliverables

Attachment 1 - Job Profile

Attachment 2 - Training Product Description

Attachment 3 - Competency Standards

a. Interpersonal skills
b. Mechanical Reasoning
c. The Automotive Industry
d. Remove and Replace Components

Attachment 4 - Implementation Guide

Appendices

Appendix 1: Consultation Log September 2024.

Appendix 2a: 2 Workshop Data_28 29 May 2024

Appendix 2b: 2 Day Workshop Data May 2024

Appendix 3: DEWR Specialist Tasks

Appendix 4: Consolidated Job Profile for Entry-Level Automotive Industry Workers

Appendix 5: Combined Workshop Feedback

Appendix 6: Consolidated Content for a New Purpose 2 Qualification

Appendix 7: Recommended Project Actions

Appendix 8: Potential Competency Standard Mapping

Appendix 9: Joint Infographic

Demonstration Project Collaboration

AUSMASA, SaCSA, and Skills Insight have met twice to discuss the outcomes of the current Qualifications Reform Demonstration Projects. The discussions highlighted a number of commonalities in the challenges faced in the respective industry areas and in the projects' outcomes.

As a result, the three organisations have collaborated to develop an infographic summarising the projects' outcomes and commonalities. The infographic, which is in Appendix 9, also offers ideas for future collaborations.

Mining and Automotive Skills Alliance

The Mining and Automotive Skills Alliance (AUSMASA)
is a Jobs and Skills Council funded by the
Australian Government Department of Employment and Workplace Relations.

Consolidated Job Profile for Entry Level Automotive Industry Workers

Job Roles and Responsibilities

1. Servicing and Maintenance

Refuelling and Scheduled Servicing

- Carry out refuelling servicing and scheduled servicing of machinery and plant & equipment.
- Assist tradespeople in washing, servicing, maintenance, and repair of plant equipment and associated components.
- Service vehicles for routine scheduled maintenance as per dealer and manufacturer recommendations.
- Perform routine maintenance tasks such as oil changes, tyre rotations, and fluid checks.

2. Fitting and Installation

Fitting Accessories

- Install accessories such as tow bars, bull bars, long-range tanks, roof racks, snorkels, and canopies.

Electrical Components/Wiring

- Install electrical components and wiring such as spotlights, light bars, dual battery systems, UHF radios, and brake controllers.

Fitting Additional Vehicle Parts

- Fit trays, drawer modules, windows, and keyless entry systems.
- Fit bull bars, steel trays, composite trays, modules, canopies, and toolboxes.

4. Technical Support and Diagnostics

Technical Information Sourcing

- Source technical information from reference manuals, technical bulletins, and QA service documentation.

Diagnosing and Repairing Issues

- Use diagnostic tools to identify and troubleshoot issues
- Identify equipment faults (such as mechanical, electrical and hydraulics) during servicing and report to workshop/management (May involve repair under supervision).

5. Preventative Actions and Problem Resolution

Preventative Maintenance

- Perform regular inspections and proactive maintenance to prevent issues.
- Initiate actions to prevent machinery/equipment non-conformance.

Problem-Solving

- Contribute to developing and implementing solutions to mechanical problems.

6. Quality and Safety

Safety and Environmental Compliance

- Ensure lubricant sampling is carried out per Environmental and Safety Management Systems.
- Ensure refuelling of plant and equipment is done safely and in an environmentally compliant manner.
- Follow all safety requirements and standards for disposing of hazardous or toxic materials.
- Maintain a clean working environment and ensure customer vehicles are kept neat and orderly.

7. Customer Service and Communication

Customer Interaction

- Provide high standards of customer service.
- Communicate regularly with supervisors and customers about work performed, necessary changes, new parts needed, or any concerns.
- Complete necessary paperwork for each repair job.

8. Collaboration and Professional Development

Team Collaboration

- Work collaboratively within a team to accomplish assigned tasks.

Continuous Learning

- Keep up with required knowledge and skills in automotive maintenance.
- Stay updated on new technologies and techniques in automotive repair.

Required Knowledge

Servicing and Maintenance Knowledge

Automotive Systems and Components

- Mechanical knowledge/aptitude for engines, transmissions (manual and automatic), braking systems, steering and suspension systems, electrical and electronic systems, and HVAC systems.

Diagnostic Tools and Software

- Use of computerized diagnostic equipment and understanding of OBD (On-Board Diagnostics) systems.

Maintenance Procedures

- Scheduled servicing protocols and routine maintenance tasks.

Fitting and Installation Knowledge

Accessory Fitting

- Understanding how to fit accessories and knowledge of their compatibility with various vehicle models.

Suspension Systems

- Knowledge of fitting suspension airbags and performing GVM upgrades.

Electrical Systems and Components

- Installation of electrical components and wiring.

Vehicle Parts Replacement

- Techniques for removing and replacing vehicle parts and accessories.

Auto Electrical Principles

- Basic principles of auto electrical systems.

Safety and Environmental Knowledge

Safety Protocols

- Workplace safety standards and practices, safe handling, and disposal of hazardous materials.

Environmental Regulations

- Environmental protection standards and proper disposal of waste materials.

Documentation and Instructions Knowledge

Technical Manuals and Bulletins

- Reading and interpreting reference manuals, using technical bulletins, and understanding QA service documentation.

Following Procedures

- Adherence to documented procedures and processes during vehicle disassembly, reassembly, and cleaning.

Customer Service Knowledge

Customer Interaction

- Providing high standards of customer service and effective communication.

Communication Skills

- Communicating technical information to customers in an understandable manner.

Time Management Knowledge

Time Management Skills

- Efficiently managing time to meet deadlines and ensuring timely completion of tasks.

Required Skills

Technical Skills

Mechanical Skills

- Performing oil changes, fluid maintenance, minor and major mechanical repairs, greasing, and lubrication.

Diagnostic Skills

- Using diagnostic tools, interpreting diagnostic codes, and troubleshooting problems.

Repair Skills

- Repairing and replacing gearboxes, transmissions, hydraulics, and fixing electrical and HVAC systems.

Fitting and Installation Skills

Accessory Fitting Skills

- Proficiency in fitting various accessories.

Suspension Systems Installation

- Skills in fitting suspension components and performing GVM upgrades.

Electrical Components Installation

- Installing electrical components and wiring accurately.

Safety and Maintenance Skills

Workplace Safety Practices

- Adhering to safety protocols and using PPE.

Tool and Equipment Maintenance

- Maintaining and caring for tools and equipment.

Workshop Duties Skills

Workshop Maintenance

- Keeping the workshop clean and organized.

Forklift Operation

- Operating a forklift safely within the workshop.

Inspection and Testing Skills

Vehicle Inspection for Fitment

- Conducting thorough inspections to ensure proper fitment and functionality.

Safety and Operability Testing

- Testing and evaluating reassembled vehicles for safety.

Customer Service Skills

Customer Interaction Skills

- Communicating effectively with customers to understand their needs.

Communication Skills

- Providing detailed and accurate information about the fitting process and any issues encountered.

Time Management Skills

Efficient Time Management

- Managing time effectively to meet deadlines and complete tasks efficiently.

Parts Fitter Job Profile

Job Roles and Responsibilities

Fitting and Installation

1. Fitting Accessories

- Install accessories such as tow bars, bull bars, long-range tanks, roof racks, snorkels, and canopies.

2. Suspension and Upgrades

- Fit suspension airbags and perform GVM (Gross Vehicle Mass) upgrades.

3. Electrical Components/Wiring

- Install electrical components and wiring such as spotlights, light bars, dual battery systems, UHF radios, and brake controllers.

4. Fitting Additional Vehicle Parts

- Fit trays, drawer modules, windows, and keyless entry systems.
- Fit bull bars, steel trays, composite trays, modules, canopies, and toolboxes.

Repairs and Servicing

5. Camper Trailer Servicing

- Perform repairs and servicing of camper trailers.

6. Vehicle Disassembly and Reassembly

- Disassemble and reassemble vehicles according to job sheets and instructions.

7. Diagnosis and Troubleshooting

- Diagnose and troubleshoot issues that arise during the fitting process.

Safety and Maintenance

8. Safety Leadership

- Demonstrate safety leadership and the ability to identify and implement safe work practices.

9. Workshop Safety

- Adhere to occupational health and safety (OH&S) policies, including the use of personal protective equipment (PPE).
- Follow all workshop WHS (Work Health and Safety) and SOP (Standard Operating Procedures) procedures.

10. Tool and Equipment Care

- Handle all tools and equipment with due care, ensuring they remain safe, clean, and in workable condition.

Workshop Duties

11. Workshop Maintenance

- Perform regular workshop maintenance such as cleaning, tidying, and sweeping the workshop.
- Assist with other workshop duties as directed by leadership.

12. Forklift Operation

- Operate a forklift as needed within the workshop.

Inspection and Testing

13. Inspection for Fitment and Functionality

- Conduct thorough inspections of vehicles to ensure proper fitment and functionality of accessories.

14. Safety and Operability Testing

- Test and evaluate reassembled vehicles for safety and operability.

15. Vehicle Cleaning

- Ensure vehicles are cleaned according to documented processes and procedures.

Documentation and Instructions

16. Reading and Understanding Instructions

- Read and understand fitting instructions to ensure accurate and safe installation of parts and accessories.

17. Following Job Sheets and Procedures

- Follow job sheets and documented procedures accurately during the disassembly and reassembly process.

Learning and Development

18. Learning Auto Electrical Principles

- Learn and apply auto electrical principles and wiring techniques.

19. Assist Tradespersons

- Assist tradespersons with various tasks and learn from their expertise.

Customer Service

20. Customer Interaction

- Provide excellent customer service by ensuring high standards of fitment and addressing any issues that may arise during the fitting process.

Required Knowledge

Fitting and Installation Knowledge

1. Accessory Fitting

- Understanding how to fit accessories such as tow bars, bull bars, long-range tanks, roof racks, snorkels, and canopies.
- Knowledge of different types of accessories and their compatibility with various vehicle models.

2. Suspension Systems

- Knowledge of fitting suspension airbags and performing GVM (Gross Vehicle Mass) upgrades.
- Understanding suspension dynamics and the impact on vehicle performance.

3. Electrical Systems and Components

- Installation of electrical components and wiring, including spotlights, light bars, dual battery systems, UHF radios, and brake controllers.
- Basic understanding of automotive electrical systems and circuitry.

4. Vehicle Parts Replacement

- Techniques for removing and replacing vehicle parts and accessories such as trays, drawer modules, windows, and keyless entry systems.
- Familiarity with various fastening and securing methods used in vehicle parts installation.

5. Auto Electrical Principles

- Basic principles of auto electrical systems, including wiring, fuses, and relays.
- Knowledge of how to safely handle and install electrical components.

Repairs and Servicing Knowledge

6. Camper Trailer Maintenance

- Knowledge of repairing and servicing camper trailers, including common issues and their solutions.
- Understanding of the components and systems specific to camper trailers.

7. Disassembly and Reassembly

- Processes for disassembling and reassembling vehicles according to job sheets and fitting instructions.
- Understanding of vehicle structure and component placement.

8. Troubleshooting and Diagnostics

- Ability to diagnose and troubleshoot issues during the fitting process.
- Knowledge of common problems and effective solutions in parts fitting.

Safety and Maintenance Knowledge

9. Workplace Safety Practices

- Knowledge of safety leadership and the ability to identify and implement safe work practices.
- Familiarity with occupational health and safety (OH&S) policies, including the use of personal protective equipment (PPE).

10. Tool and Equipment Maintenance

- Proper handling and maintenance of company tools and equipment to ensure they remain safe, clean, and in workable condition.
- Understanding of calibration and routine checks for tools and equipment.

Workshop Duties Knowledge

11. Workshop Maintenance

- Regular maintenance tasks to keep the workshop clean and tidy, including sweeping and organizing tools and equipment.
- Procedures for waste management and disposal of hazardous materials.

12. Forklift Operation

- Knowledge of operating a forklift within the workshop environment.
- Understanding safety protocols and handling procedures for moving heavy parts and equipment.

Inspection and Testing Knowledge

13. Vehicle Inspection for Fitment

- Conducting thorough inspections to ensure proper fitment and functionality of accessories.

- Understanding specifications and standards for various accessories and their installation.

14. Safety and Operability Testing

- Testing and evaluating reassembled vehicles for safety and operability.
- Knowledge of testing equipment and procedures to ensure compliance with safety standards.

Documentation and Instructions Knowledge

15. Reading and Understanding Instructions

- Ability to read and understand fitting instructions and job sheets.
- Familiarity with technical documentation and how to interpret it accurately.

16. Following Procedures

- Adherence to documented procedures and processes during vehicle disassembly, reassembly, and cleaning.
- Knowledge of standard operating procedures (SOPs) and their application in daily tasks.

Learning and Development Knowledge

17. Continuous Learning

- Commitment to learning new skills and techniques through training courses and staying updated with industry standards.
- Awareness of the latest advancements in automotive parts and accessories.

Customer Service Knowledge

18. Customer Interaction Skills

- Providing high standards of customer service, understanding customer needs, and ensuring customer satisfaction.
- Knowledge of how to communicate technical information to customers in an understandable manner.

19. Communication Skills

- Effective communication with customers to explain fitment processes and address any concerns.
- Understanding customer service principles and how to apply them in an automotive setting.

Time Management Knowledge

20. Time Management Skills

- Efficiently managing time to meet deadlines, especially during peak seasons, and ensuring timely completion of tyre repairs and installations.
- Knowledge of prioritization techniques and time allocation for various tasks.

Required Skills

Fitting and Installation Skills

1. Accessory Fitting Skills

- Proficiency in fitting accessories such as tow bars, bull bars, long-range tanks, roof racks, snorkels, and canopies.
- Ensuring accessories are installed securely and correctly according to specifications.

2. Suspension Systems Installation

- Skills in fitting suspension airbags and performing GVM (Gross Vehicle Mass) upgrades.
- Understanding suspension dynamics and how to install components to enhance vehicle performance.

3. Electrical Components Installation

- Installing electrical components and wiring such as spotlights, light bars, dual battery systems, UHF radios, and brake controllers.
- Ability to read electrical schematics and perform wiring tasks accurately.

4. Vehicle Parts Replacement

- Removing and replacing vehicle parts and accessories like trays, drawer modules, windows, and keyless entry systems.
- Using various fastening and securing methods effectively during installations.

5. Auto Electrical Skills

- Basic understanding of automotive electrical principles and circuits.
- Ability to safely handle and install electrical components, ensuring proper connections and functionality.

Repairs and Servicing Skills

6. Camper Trailer Maintenance Skills

- Performing repairs and servicing on camper trailers, including diagnosing common issues.
- Applying best practices for maintaining camper trailer components and systems.

7. Disassembly and Reassembly

- Efficiently disassembling and reassembling vehicles according to job sheets and fitting instructions.
- Understanding vehicle structures and correctly reassembling components.

8. Troubleshooting and Diagnostic Skills

- Diagnosing and troubleshooting issues that arise during the fitting process.
- Identifying problems and implementing effective solutions.

Safety and Maintenance Skills

9. Workplace Safety Practices

- Adhering to safety protocols and practices to ensure a safe working environment.
- Using personal protective equipment (PPE) appropriately and following OH&S policies.

10. Tool and Equipment Maintenance

- Maintaining and caring for tools and equipment to ensure they remain in good working condition.
- Performing routine checks and calibration of tools as necessary.

Workshop Duties Skills

11. Workshop Maintenance

- Keeping the workshop clean and organized, including performing regular maintenance tasks.
- Efficiently managing waste and disposing of hazardous materials safely.

12. Forklift Operation

- Operating a forklift safely within the workshop to move heavy parts and equipment.
- Understanding and following safety protocols for forklift operation.

Inspection and Testing Skills

13. Vehicle Inspection for Fitment

- Conducting thorough inspections to ensure proper fitment and functionality of accessories.
- Using inspection tools and equipment accurately to verify compliance with standards.

14. Safety and Operability Testing

- Testing and evaluating reassembled vehicles for safety and operability.
- Using testing equipment and procedures to ensure all installations meet safety standards.

Documentation and Instructions Skills

15. Reading and Understanding Instructions

- Reading and interpreting fitting instructions and job sheets accurately.
- Understanding technical documentation and applying it correctly during installations.

16. Following Procedures

- Adhering to documented procedures and processes for vehicle disassembly, reassembly, and cleaning.
- Applying standard operating procedures (SOPs) consistently in daily tasks.

Learning and Development Skills

17. Continuous Learning

- Committing to ongoing learning and development through training courses and staying updated with industry standards.
- Keeping abreast of the latest advancements in automotive parts and accessories.

Customer Service Skills

18. Customer Interaction Skills

- Communicating effectively with customers to understand their needs and ensure satisfaction.
- Providing clear explanations of technical information and addressing customer concerns.

19. Communication Skills

- Effectively communicating with team members and customers.
- Providing detailed and accurate information about the fitting process and any issues encountered.

Time Management Skills

20. Efficient Time Management

- Managing time effectively to meet deadlines and complete tasks efficiently.

Prioritizing tasks and allocating time appropriately to ensure timely completion of installations and repairs

Service Person Job Profile

Job Roles and Responsibilities

1. Servicing and Maintenance

- Carry out refueling, shift servicing and scheduled servicing of machinery and plant & equipment.
- Assist trades people in washing, servicing, maintenance, and repair of plant equipment and associated components.
- Assist Mechanics with completing oil changes, greasing, filter inspections, and minor mechanical repairs including gearboxes/transmissions and hydraulics.
- Service vehicles for routine scheduled maintenance as per dealer and manufacturer recommendations.
- Perform routine maintenance tasks such as oil changes, tire rotations, and fluid checks.
- Perform basic care and maintenance including changing oil, checking fluid levels, and rotating tires.

2. Technical Support and Diagnostics

- Source technical information from reference manuals, technical bulletins, and Thiess Quality Controlled (QA) service documentation.
- Identify equipment faults such as gearboxes, transmissions, and hydraulics during servicing and rectify/report to workshop/management.
- Identify problems using computerized diagnostic equipment.
- Diagnose and repair issues with the engine, transmission, braking system, and other systems.
- Test parts and systems to ensure proper functionality.
- Use diagnostic tools to identify and troubleshoot issues.
- Explain automotive problems and repairs to clients.

3. Quality and Safety

- Ensure lubricant sampling is carried out per Thiess Environmental and Safety Management Systems.
- Ensure refueling of plant and equipment is done safely and in an environmentally compliant manner, adhering to site safety tagging and fire procedures.
- Follow all safety requirements and standards for disposing of hazardous or toxic materials.
- Adhere to best practices in the automotive service environment, reporting any accidents or incidents to management promptly.
- Maintain a clean working environment and ensure customer vehicles are kept neat and orderly.

4. Preventative Actions and Problem Resolution

- Initiate actions to prevent machinery/equipment non-conformance, identify and record any quality problems.
- Plan work procedures using charts, technical manuals, and experience.
- Initiate, recommend, or provide solutions through designated channels.

5. Customer Service and Communication

- Assist customers needing vehicle repairs by ordering parts, diagnosing problems, performing vehicle operation tests, and installing new components.
- Communicate regularly with the supervisor about work performed, necessary changes, new parts needed, or any concerns related to repair or maintenance work on vehicles.
- Complete necessary paperwork for each repair job.

6. Collaboration and Professional Development

- Work collaboratively within a team to accomplish assigned tasks.
- Keep up with required knowledge and skills in automotive maintenance
- Stay up to date on new technologies and techniques in automotive repair.

Required Knowledge

Technical Knowledge

1. Automotive Systems and Components

- Mechanical Knowledge / aptitude
- Engines
- Transmissions (manual and automatic)
- Braking systems
- Steering and suspension systems
- Electrical and electronic systems
- HVAC systems (heating, ventilation, and air conditioning)

2. Diagnostic Tools and Software

- Use of computerized diagnostic equipment
- Understanding of OBD (On-Board Diagnostics) systems
- Diagnostic procedures for identifying issues

3. Maintenance Procedures

- Scheduled servicing protocols
- Routine maintenance tasks such as oil changes, tire rotations, and fluid checks
- Lubrication and greasing techniques
- Filter inspections and replacements

4. Repair Techniques

- Minor and major mechanical repairs
- Gearboxes and transmissions repairs
- Hydraulics system repairs
- Engine repairs and overhauls
- Brake repairs including pads, rotors, and sensors
- Replacement of worn parts (belts, spark plugs, etc.)

Safety and Environmental Knowledge

5. Safety Protocols

- Workplace safety standards and practices
- Safe handling and disposal of hazardous materials
- Fire safety procedures
- Use of personal protective equipment (PPE)

- Safety tagging and lockout procedures

6. Environmental Regulations

- Environmental protection standards
- Environmental and Safety Management Systems (if applicable)
- Proper disposal of waste materials
- Spill prevention and response procedures

Technical Documentation and Information

7. Technical Manuals and Bulletins

- Legislation and regulation relevant to the workplace
- Reading and interpreting reference manuals
- Using technical bulletins for updates and service information
- Quality Controlled (QA) service documentation (if applicable)

8. Parts and Tools

- Identifying and sourcing automotive parts
- Understanding tool usage and maintenance
- Parts ordering and inventory management

Preventative Maintenance

9. Preventative Maintenance Practices

- Techniques to prevent machinery/equipment non-conformance
- Identifying potential issues before they become major problems
- Regular inspections and proactive maintenance

Customer Service and Communication

10. Customer Interaction

- Communicating effectively with customers
- Explaining automotive problems and repairs in understandable terms
- Providing repair and maintenance recommendations

11. Job Documentation

- Completing paperwork for each repair job
- Recording service and maintenance activities accurately

Professional Development

12. Continuous Learning

- Keeping up-to-date with new automotive technologies and techniques
- Attending workshops, seminars, and training sessions
- Reading industry publications and updates

Collaboration

13. Teamwork

- Working collaboratively with other technicians and mechanics
- Assisting colleagues with repairs
- Sharing knowledge and best practices within the team

Specialised Knowledge (if applicable)

14. Specific Vehicle Types

- Knowledge specific to certain makes and models
- Understanding of hybrid and electric vehicle systems
- Heavy machinery and plant equipment servicing

Required Skills

Technical Skills

1. Mechanical Skills

- Performing oil changes and fluid maintenance
- Conducting routine maintenance tasks such as tire rotations and brake pad replacements
- Performing minor and major mechanical repairs on engines, transmissions, and braking systems
- Greasing and lubricating vehicle components
- Conducting filter inspections and replacements

2. Diagnostic Skills

- Using computerized diagnostic tools and software to identify vehicle issues
- Interpreting diagnostic codes and troubleshooting problems
- Conducting visual inspections to identify wear and tear or damage

3. Repair Skills

- Repairing and replacing gearboxes, transmissions, and hydraulics
- Fixing electrical and electronic systems
- Repairing HVAC systems (heating, ventilation, and air conditioning)
- Conducting engine repairs and overhauls
- Performing repairs to manufacturer and customer specifications

4. Technical Information Skills

- Reading and interpreting technical manuals and bulletins
- Following checklists to ensure all critical parts are examined
- Sourcing technical information from reference materials

Safety and Environmental Skills

5. Safety Skills

- Adhering to workplace safety standards and practices
- Using personal protective equipment (PPE) correctly
- Handling and disposing of hazardous materials safely
- Following fire safety procedures and site safety tagging

6. Environmental Skills

- Complying with environmental regulations and standards
- Implementing spill prevention and response procedures

Customer Service and Communication Skills

7. Customer Interaction Skills

- Communicating effectively with customers about vehicle issues and repairs
- Providing clear explanations and recommendations
- Assisting customers with parts ordering and diagnostics

8. Documentation Skills

- Completing repair job paperwork accurately
- Maintaining detailed records of service and maintenance activities
- Reporting accidents or incidents to management promptly

Collaboration and Teamwork Skills

9. Teamwork Skills

- Working collaboratively with other technicians and mechanics
- Assisting colleagues with complex repairs
- Sharing knowledge and best practices within the team

Professional Development Skills

10. Learning and Development Skills

- Keeping up-to-date with new automotive technologies and repair techniques
- Attending workshops, seminars, and training sessions
- Continuously improving technical skills and knowledge

Preventative Maintenance Skills

11. Preventative Maintenance Skills

- Performing regular inspections and proactive maintenance to prevent issues
- Identifying potential problems before they escalate
- Initiating actions to prevent machinery/equipment non-conformance

Problem-Solving and Analytical Skills

12. Problem-Solving Skills

- Diagnosing and troubleshooting vehicle issues effectively
- Developing solutions to complex mechanical problems
- Implementing best practices to enhance repair efficiency and effectiveness

Technical Equipment Skills

13. Tool and Equipment Skills

- Proficient use of hand tools and power tools
- Maintaining and calibrating diagnostic and repair equipment
- Ensuring tools and equipment are used safely and correctly

Specialised Skills (if applicable)

14. Specialised Vehicle Skills

- Understanding specific repair and maintenance requirements for certain makes and models
- Working with hybrid and electric vehicles
- Servicing heavy machinery and plant equipment

Tyre Fitter - Job Profile

Job Roles and Responsibilities

Tyre Servicing

1. Puncture Repairs

- Diagnose and repair punctures according to relevant standards.

2. Rotations

- Perform tyre rotations to ensure even wear.

3. Fitting & Wheel Balancing

- Fit new tyres onto rims.
- Balance wheels to correct any imbalances.

4. Wheel Alignments

- Perform wheel alignments for cars, SUVs, and 4WD vehicles.
- Diagnose and address any related problems, such as parts needing to be changed.

Equipment Operation

5. Operate Tyre Fitting & Balancing Equipment

- Use tyre fitting machines and wheel balancing equipment efficiently.

6. General Workshop Assistance

- Assist workshop staff with day-to-day tasks.
- Perform general labouring and cleaning duties as required.

Diagnostics

7. Diagnosing Tyre Damage & Wear

- Inspect tyres for damage and wear patterns.

8. Diagnosing Wheel Balance Problems

- Identify and correct wheel balance issues.

Tyre Replacement

9. Removing and Replacing Tyres

- Remove old tyres and fit new ones onto vehicles.

10. Selecting Correct Tyres, Tubes, and Rims

- Choose appropriate tyres, tubes, rims, and accessories based on vehicle requirements.

Customer Service

11. Providing High Standard of Customer Service

- Maintain a professional presentation and ensure customer satisfaction.

12. Identifying and Assessing Customer Needs

- Understand customer requirements and provide solutions to meet their needs.

Time Management

13. Efficient Time Management

- Manage time effectively, including during peak seasons to meet set deadlines for tyre repairs.

Safety and Maintenance

14. Keeping a Safe and Clean Work Area

- Ensure the workshop and work areas are clean and safe.

15. Providing Feedback

- Report any issues or feedback to improve business operations.

16. Inspecting Brakes

- Check and inspect brakes during tyre servicing.

Reliability and Professionalism

17. Being Reliable and Punctual

- Consistently arrive on time and perform duties reliably.

18. Attending Training Courses

- Participate in training sessions to stay updated with industry standards and practices.

Required Knowledge

Tyre Servicing Knowledge

1. Puncture Repairs

- Understanding different types of punctures and appropriate repair techniques.
- Knowledge of industry standards for puncture repairs.

2. Tyre Rotations

- Methods for rotating tyres to ensure even wear.
- Knowledge of vehicle-specific rotation patterns.

Tyre Fitting and Balancing

3. Fitting New Tyres

- Procedures for safely fitting new tyres onto rims.
- Understanding tyre specifications and compatibility.

4. Wheel Balancing

- Techniques for balancing wheels to eliminate vibrations.
- Use of wheel balancing equipment.

Wheel Alignments

5. Performing Wheel Alignments

- Knowledge of alignment principles and procedures.
- Ability to diagnose and correct alignment issues.

6. Related Problems

- Identifying and addressing related problems, such as worn suspension components or steering issues.

Equipment Operation

7. Tyre Fitting Machines

- Operation of tyre fitting machines.
- Maintenance and troubleshooting of tyre fitting equipment.

8. Wheel Balancing Equipment

- Proficient use of wheel balancing machines.
- Regular maintenance of balancing equipment.

Diagnostics

9. Diagnosing Tyre Damage and Wear

- Understanding different types of tyre wear patterns and their causes.
- Techniques for inspecting tyres for damage.

10. Diagnosing Wheel Balance Problems

- Identifying symptoms of wheel imbalance.
- Corrective actions for wheel balance issues.

Tyre Replacement

11. Removing and Replacing Tyres

- Procedures for safely removing old tyres and fitting new ones.
- Knowledge of various tyre types and their applications.

12. Selecting Correct Tyres, Tubes, and Rims

- Understanding vehicle requirements to choose appropriate tyres, tubes, rims, and accessories.
- Awareness of tyre ratings and specifications.

Customer Service

13. Providing High Standard of Customer Service

- Effective communication skills to explain tyre issues and solutions to customers.
- Ensuring customer satisfaction through professional service.

14. Identifying and Assessing Customer Needs

- Ability to understand and meet customer requirements.
- Providing recommendations based on customer needs and vehicle specifications.

Time Management

15. Efficient Time Management

- Prioritizing tasks to manage time effectively.
- Meeting deadlines, especially during peak seasons for tyre repairs.

Safety and Maintenance

16. Keeping a Safe and Clean Work Area

- Knowledge of workplace safety practices and regulations.

- Maintaining a clean and organized work environment.

17. Providing Feedback

- Reporting issues and providing feedback for continuous improvement.

18. Inspecting Brakes

- Checking and inspecting brakes as part of tyre servicing.

Reliability and Professionalism

19. Being Reliable and Punctual

- Consistent reliability and punctuality in performing duties.

20. Attending Training Courses

- Commitment to continuous learning through training sessions and staying updated with industry standards.

General Workshop Assistance

21. Assisting Workshop Staff

- Assisting with various day-to-day tasks in the workshop.

22. General Labouring and Cleaning Duties

- Performing general labouring and cleaning tasks as required.

Additional Skills and Knowledge

23. Forklift Operation

- Knowledge of operating a forklift within the workshop environment.

24. Vehicle Inspection

- Conducting thorough inspections to ensure proper fitment and functionality of tyres and accessories.

25. Safety and Operability Testing

- Testing and evaluating reassembled vehicles for safety and operability.

Required Skills

Tyre Servicing Skills

1. Puncture Repair Skills

- Diagnosing different types of punctures.
- Using appropriate techniques and materials to repair punctures according to industry standards.

2. Tyre Rotation Skills

- Performing tyre rotations to ensure even wear.
- Understanding vehicle-specific rotation patterns and applying them correctly.

Tyre Fitting and Balancing Skills

3. Tyre Fitting Skills

- Safely fitting new tyres onto rims.
- Ensuring tyres are seated properly and securely.
- Knowledge of tyre specifications and compatibility.

4. Wheel Balancing Skills

- Balancing wheels to eliminate vibrations.
- Using wheel balancing machines accurately and efficiently.
- Identifying and correcting wheel balance issues.

Wheel Alignment Skills

5. Wheel Alignment Skills

- Performing wheel alignments for various types of vehicles.
- Diagnosing and correcting alignment issues.
- Knowledge of alignment principles and procedures.

6. Suspension and Steering Inspection Skills

- Identifying problems related to suspension and steering systems.
- Diagnosing and recommending necessary repairs.

Equipment Operation Skills

7. Tyre Fitting Machine Operation

- Proficient use of tyre fitting machines.
- Performing maintenance and troubleshooting on tyre fitting equipment.

8. Wheel Balancing Machine Operation

- Accurate use of wheel balancing machines.
- Performing regular maintenance on balancing equipment.

Diagnostic Skills

9. Tyre Damage and Wear Diagnostics

- Inspecting tyres for damage and wear patterns.
- Understanding the causes of different wear patterns and recommending solutions.

10. Wheel Balance Problem Diagnostics

- Identifying symptoms of wheel imbalance.
- Implementing corrective actions to resolve balance issues.

Tyre Replacement Skills

11. Removing and Replacing Tyres

- Safely removing old tyres and fitting new ones onto vehicles.
- Ensuring correct tyre selection based on vehicle requirements.
- Understanding and applying knowledge of various tyre types and their applications.

12. Selecting Correct Tyres, Tubes, and Rims

- Choosing appropriate tyres, tubes, rims, and accessories.
- Understanding tyre ratings and specifications.

Customer Service Skills

13. Customer Interaction Skills

- Communicating effectively with customers to explain tyre issues and solutions.
- Providing high standards of customer service and ensuring customer satisfaction.

14. Assessing Customer Needs

- Understanding customer requirements.
- Offering recommendations based on customer needs and vehicle specifications.

Time Management Skills

15. Efficient Time Management

- Prioritizing tasks to manage time effectively.
- Meeting deadlines, especially during peak seasons for tyre repairs.

Safety and Maintenance Skills

16. Maintaining a Safe Work Area

- Following workplace safety practices and regulations.
- Keeping the work area clean and organized.

17. Feedback and Reporting Skills

- Reporting issues and providing feedback to improve business operations.

18. Brake Inspection Skills

- Checking and inspecting brakes during tyre servicing.
- Identifying any issues and recommending necessary repairs.

Reliability and Professionalism Skills

19. Reliability and Punctuality

- Consistently arriving on time and performing duties reliably.
- Maintaining a professional demeanour at all times.

20. Continuous Learning

- Attending training sessions to stay updated with industry standards and practices.
- Committing to ongoing learning and development.

General Workshop Assistance Skills

21. Assisting Workshop Staff

- Supporting workshop staff with day-to-day tasks.
- Performing general labouring and cleaning duties as required.

Forklift Operation Skills

22. Forklift Operation

- Operating a forklift safely within the workshop environment.
- Performing tasks such as moving heavy tyres and equipment.

Vehicle Inspection Skills

23. Vehicle Inspection

- Conducting thorough inspections to ensure proper fitment and functionality of tyres and accessories.

24. Safety and Operability Testing

- Testing and evaluating reassembled vehicles for safety and operability.

Qualification Structure and Content Worksheet – Combined Feedback

Qualification Development Quality Principles

i. ensure learners' needs and aspirations inform qualification design, including occupations, transferability, transitioning occupations and industries, and mobility across industries;
ii. place equal importance on skill, knowledge, and application;
iii. allow flexible training and assessment in high-quality training environments;
iv. avoid duplication with other training products where industry context does not require it;
v. reduce specificity except where a higher level of detail is required for licencing, high risk, safety, regulatory or graduate quality reasons;
vi. consider and integrate foundation skills, general capabilities, and knowledge progression

Program Intent

Develop a Pre-Vocational Program for the Automotive Industry, for learners who mainly fit one of two categories, they are not quite ready to participate in a Certificate III or they are not sure that the automotive industry is the career choice for them.

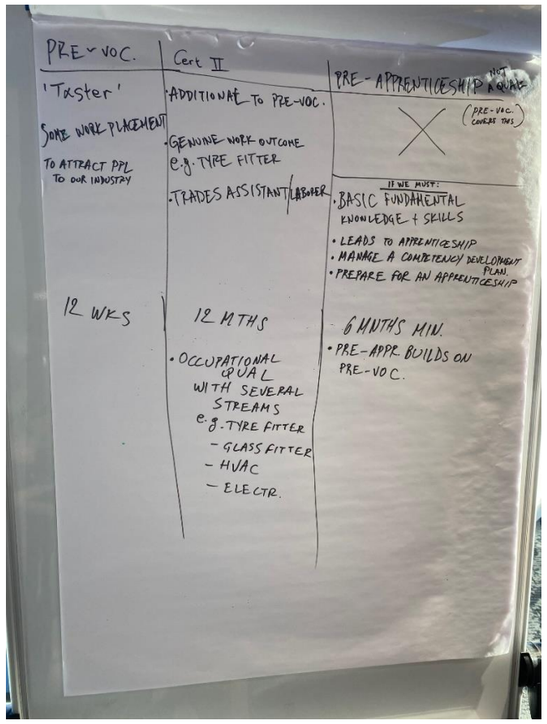
Graduates should display a readiness and capability to learn and progress to a Certificate III qualification in a range of automotive specialisations, be safe in the workplace, and be effective as a team member in an automotive workplace.

Group 1	Group 2	Group 3	Group 4

Skills and Attributes
 	
• Work safely (knowledge and skill)
• Communication/collaboration (knowledge and skill)
• Use and understand technology/basic problem solving (knowledge and skill)
• Sustainability/environment (knowledge)
• Work readiness (includes diversity/inclusivity) (knowledge)
• Use basic workshop skills (including hand tools) (knowledge and skills)
• Basic overview of the industry (knowledge)
• Undertake routine tasks in an automotive workplace (work performance)
 	
RTO: knowledge and skills
Workplace: work performance
Workplace Assessor: workplace assessment
 	
Stage to an occupational outcome
• Inspect and identify faults (work performance)
• Follow routine procedures to replace parts and equipment (work performance)
	Core skills required:
	• Work effectively with others in the automotive industry.
	• Combine with reading and responding to information in the workplace.
	• Access, retrieve and read workplace information (Digital literacy – repair instructions online)
	• Use numbers in the automotive workplace.
	• Write routine texts in an automotive workplace.
	• Communicate effectively in the automotive workplace.
	• Work safely.
	• Environmental awareness and sustainable practices.
	• Use and maintain tools and equipment (hand tools and workshop equipment)
	• Identify mechanical systems and components.
	• Identify automotive electrical systems and components.
	• Resolve routine problems in an automotive workplace.
		Skill that you want to have:
		• Safety
		  ○ General workshops safety, PPE
		  ○ Procedural safety – operate safety (know what questions to ask – have you done this before, existing procedures, risk analysis, technology changes – hydrogen) – clustering (impacts on audit – need to be mindful)
		
		• Work effectively
		  ○ Problem solving – routine/simple (industry context example); basic contingency management (ie equipment not working, need to find specific tool etc) (diagnose and develop strategies)
		  ○ Environmental / sustainability best practice (may need closer look re how knowledge/skills applied in specific contexts)
		  ○ Communicate and operate in workplace – team, customer, turn up on time (understand impact of self and actions within workplace –
			Knowledge and Skills that should be applied in an automotive context.
			• Automotive principles
			  ○ Electrical, mechanical, hydraulic – identify a broad range of automotive components
			
			• Foundation skills applied in an automotive environment
			• Safe work practice – safe systems of work
			• Environmental – recycling and disposal
			• Tools and equipment -air power and hand
			
			Automotive Enduring Skills
			
			• Employability skills, foundations, skills for work
			• Growth mindset, principles of learning, continuous learning, life skills
			• Customer Centricity – polite, respectful, appearance, communication

Group 1	Group 2	Group 3	Group 4
One Qualification with streams (e.g.): • Tyre fitting • Glazing • HVAC • Auto electrical **Units that should be included/combined:** • Work safely (knowledge and skill) • Communication/collaboration (knowledge and skill) • Use and understand technology/basic problem solving (knowledge and skill) • Sustainability/environment (knowledge) • Work readiness (includes diversity/inclusivity) (knowledge) • Use basic workshop skills (including hand tools) (knowledge and skills) • Basic overview of the industry (knowledge) • Mechanical fundamentals (knowledge and skill) • Prepare to work as an apprentice (knowledge) • Manage a competency development plan (knowledge) • Undertake routine tasks in an automotive workplace (work performance)	Electives/Skill set/taster: • Automotive Electrical • Outdoor powered equipment • Light vehicle • Heavy vehicle • Panel and Paint • Vehicle body painting • Panel beating • Bicycle mechanic • Automotive Sales • Automotive Administration • Etc	i.e. changed component, spilt, created risk and now need to resolve) • Understanding the automotive industry sector ○ Fundamentals of work environment e.g. work procedures/charts, reports – typical things that will be experienced to follow this type of format/these elements, teaching right questions to ask – e.g. ask for service manual) ○ fundamentals of engines ▪ engine types/how operate, ▪ components (brakes, suspension, steering, drive-train, electrics, safety systems , tyres etc), ▪ fundamental mechanical reasoning/how systems work?) ▪ principles/terminology for auto (e.g. Ohms law, safety – fuel/technology/EV safety within, fundamentals predictive maintenance/sustainability, *legislation – retail aspects*) ○ fundamentals of technology – read side wall of tyre etc, electronics, safety systems ▪ Use of tools and equipment – typical equipment (mandatory vs optional) - ▪ Computer skills / digital capability – need to understand laptop, ECM, ▪ Practical approaches: e.g. diagnose flat tyre, flat battery, fluid changes, • LLN (read, write, numeracy – using in workplace, dimensions / unit conversions)	• Agility – able to adapt using different techniques • Tech savviness – using digital equipment and basic fault finding • Collaboration – working in a team, verbal communication • Critical thinking – sourcing solid information – workshop manuals • Decision making – read of flow charts and following procedures • Creativity – accessories, lights, cosmetics **Capability skills** • Applying automotive principles • Good communication skills – basic customer service, fill in a job card correctly • Use maintain and select the right equipment and tools • Remove and replace components without breaking **Units that could be used/adapted** • Follow safe work practices and include psychosocial safety • Follow environmental sustainability • Use and maintain tools • Resolve routine problems in the workplace • Carry out basic serving operations on vehicles / equipment • Research automotive sector.

Notes for Consideration

Group 1	Group 2	Group 3	Group 4
	Ensure that the LLN and foundation skills are included From an STA point of view, I agree that it would be good to rationalise units that are duplicated or do not have enrolments. Articulation from certificate II to III – issues with fast-track apprenticeship. Would the industry say the Certificate II units are more preparatory? Stopping the excessive contribution into the cert III. Are employers expecting cert II to have a higher level of job ready skills? Cert II in Auto at school. Employer is looking for recognition so that they can get them through the apprenticeship quicker . WA government looking at what employers are looking for and if the qualification is appropriate. Do you have one qualification that is called preparatory pathways, one that is the tyre fitter and one that is generic? New broad-based cert II qualification – knowledge and skills • Work effectively with others in the automotive industry. • Combine with reading and responding to information in the workplace. • Access, retrieve and read workplace information (Digital literacy – repair instructions online) • Use numbers in the automotive workplace. • Write routine texts in an automotive workplace.	• How to make attractive and engaging – deliver capability for firms, pathways for individuals • LLND – and underpinning knowledge and capabilities – emerging technology etc, Read and interpret – wiring diagrams/ • Start at the outcome rather than units – what is the key purpose, pathway into occupation or pathway into industry? • How to make it as broad as possible - Try to move specific details into CVIG? Intersection with RTO standards. • Beyond CBT? Curriculum? Assessment instruments? Holistic assessment vs unit level? challenges and opportunities? • Duration / nominal hours? • Credit transfer, or no? • pre-requisite or not? how to control market access / levers to support quality? • Guidance vs mandatory requirements? • Licensing – maintain awareness of connections, identify implications, but don't use it to design the qualification? Separate out safety and licensing – how to be clear on • Why? Need to understand purpose of the task/function/skill, and underpinning knowledge - **Purpose:** • Cert II taster program and provide solid base of knowledge on which to build • needs to complement whatever is happening at Cert III	Must understand the automotive industry and is informed of career paths The employability skills and enduring skills provide someone who is trainable The intent is to improve the individual's capability over time and increase the complexity of applications Pre-test? Portfolio of evidence – projects / workbook – accumulate evidence for assessment

Group 1	Group 2	Group 3	Group 4
	• Communicate effectively in the automotive workplace. • Work safely. • Environmental awareness and sustainable practices. • Use and maintain tools and equipment (hand tools and workshop equipment) • Identify mechanical systems and components. • Identify automotive electrical systems and components. • Resolve routine problems in an automotive workplace. Look at Cert II in Engineering Foundations training.gov.au - AUR20705 - Certificate II in Automotive Mechanical Need to use technology language to make the qualification more attractive to young people. Redesign units to incorporate modern terminology.	○ Is credit transfer a feature or not – does credit transfer from Cert II to Cert III undermine learning in Cert III – are there alternatives to support knowledge progression vs competency-based pay progression) – not nested unit? Allow for RPL as needed? should not have overlap – but should build on / pre-enrolment (need to be tested/refined) ○ Broad underpinning knowledge, practical skills and able to be productive in work – understand why. • TARGET AUDIENCE: entry level to industry (be clear on realistic expectations) – and practical focus, make it engaging. **OTHER CONSIDERATIONS** • Paint and panel / auto retail – haven't included these in the above (will need to consider) • Tyre Fitting – some of the above may be relevant, but need task-specification for regulatory reasons (possibly Cert III with technical side of what tyre fitting, technology for sustainment, predictive maintenance – beyond Cert II level…) • Need clarity to the learner re purpose of qualification and pathways to employment - (exit points – packaged as part of a broader Cert IV quals could be exit point if student) • [technical part is at the cert II – read and interpret spec/work procedure – more Cert III, but need to know what looking at] • Are individuals being asked to "Perform" or "Assist with"? • Question: do we have elective? **RISKS** • Credit transfer – will not have the extent of experience in that specific context (no learning of how that knowledge/skill is	

Group 1	Group 2	Group 3	Group 4
		applied in specific context – e.g. identify faults different for light vehicle vs mining/agriculture tyre fitting)	

Parking Lot Issues
• Funding – Is the allocation of funding driving enrolments, rather than industry need. Funding decided on a State or Territory basis. • Licensing – different across States and Territories • RTO Quality Issues – Impacts the knowledge and skills of graduates to the point where industry does not rust outcomes from the programs. • Nominal Hours – Funding – linkages to Certificates of Secondary Education – again differences in each of the States and Territories. • Work placements – should they be included? • Insurance for work placements • Quality of simulations/ replication of workplaces – What would be considered as a suitable simulation if work placements was not included.

Proposed Structure/Content for a Certificate II Automotive Qualification

Units

Core - all the content we specify will be part of a core unit. At this stage 8 units. Do we want to specify a core only model for the qualification?

I think that a purpose 2 qualification would allow us to do that.

Electives -?

Content

- Safety
  - Identifying and controlling hazards and risks related to automotive activities
  - General workshop safety
  - hazardous areas (gas filling stations and battery charging and hydrogen).
  - PPE for activities, how to choose and use correctly
  - Procedural safety – operate safety (know what questions to ask – have you done this before, existing procedures, risk analysis, technology changes – electric / batteries / hydrogen)
  - Psychosocial Safety – how to contribute to a safe and respectful workplace

- Work effectively
  - Problem solving – routine/simple (industry context example);
  - Basic contingency management (ie equipment not working, need to find specific tool etc) (diagnose and develop strategies)
  - Environmental / sustainability best practice (may need closer look re how knowledge/skills applied in specific contexts) – Recycling and disposal.
  - Communicate and operate in workplace (Independent and group work) – team, customer, turn up on time (understand impact of self and actions within workplace – i.e. changed component, spilt, created risk and now need to resolve) learn to delegate, respect each other's opinions, and work constructively with one another.
  - Customer Centricity – polite, respectful, appearance, communication

- Understanding the automotive industry sector
  - What does the automotive industry look like - trade and non-trade pathways, what does the future look like?

- Fundamentals of work environment e.g. work procedures/charts, reports – typical things that will be experienced to follow this type of format/these elements, teaching right questions to ask – e.g. ask for service manual)
- Researching the sector / advances / changes to technology and job roles – AI – Autonomous Driving – predictive maintenance.

- Electrical Fundamentals
  - Multimeters and their use
  - Test lights and their use.
  - Interface systems / datalinks
  - Electronic diagnostic tools
  - Electrical rules (ohms law)
  - Wires, construction, its uses, sizing, current capacity,
  - Connectors and their application
  - Types of heat shrinks and heat shrinking
  - insulators, conductors, switches, circuit protection devices, resistors, crimping, soldering,
  - Sensors – What it is, how it works and how to test it, and interpreting the test results.
  - Earthing and faults related to earthing.

- Mechanical Fundamentals
  - fundamentals of engines
    - engine types/how operate,
    - components (brakes, suspension, steering, drive-train, electrics, safety systems, tyres etc),
    - fundamental mechanical reasoning/how systems work?)
    - principles/terminology for auto (e.g. Ohms law, safety – fuel/technology/EV safety within, fundamentals predictive maintenance/sustainability, *legislation – retail aspects*)
  - Sampling and contamination
  - different cleaning methods and why do or don't we use different cleaning methods on different components
  - proper use, storage and disposal of materials
  - lubricants – types and compartments that they belong to, greases versus oils.
  - Fuels petrol's / gases/ diesel – new technology
  - Refrigerants. Awareness only
  - Isolations / tagging
  - Jacking and blocking
  - Tyre awareness – construction, sizing, types, applications.

- Hydraulic Fundamentals
  - Hydraulic rules (Pascal's law, Bernoulli principle)
  - Hydraulic pump, types, controls, identification, and testing
  - Hydraulic hoses, tanks (types), sizing, construction, application, connectors, fittings (similarities and differences), manufacturing, identification, proof testing
  - Hydraulic valves,
  - Read and interpret schematics
  - proper use, storage and disposal of materials

- Identify, remove and replace a broad range of automotive components (what are the components?)
  - Awareness of workshop equipment and tooling operation and controls
  - Pre-start and walk around inspection parking and shut-down procedures
  - Use of tools and equipment – typical equipment (mandatory vs optional) –
    - Screwdrivers
    - Hammers
    - Rachets (Ring / socket)/ breaker bars / Torque wrench
    - Scrapers
    - Sockets
    - Ring spanners
    - Open end spanners
    - Scribers
    - Component etching pens
    - Punches (center, wad, pin) / Chisels
    - Knives
    - Pliers / Snips / Side cutters
    - Steel rulers / Tape measures
    - Surface plates
    - Paint / Bearing blue / Flexi gauge / preservatives
    - select the appropriate gloves, breathing, glasses
  - Computer skills / digital capability – need to understand laptop, ECM,
  - Practical approaches: e.g. diagnose flat tyre, flat battery, fluid changes – and carry out the change tasks.

- Accessing and Using workplace Information
  - Digital literacy – use of technology
  - Functional Literacy LLN read, write, numeracy – using in workplace, dimensions / unit conversions

- fundamentals of technology – read side wall of tyre etc, electronics, safety systems

Considerations

I want to consider how we would build these skills into the units rather than have them as a bolt on. I also think we should look at specifying some of the teaching and learning approaches to be used within the unit that would support the development of these skills. This could be in the unit itself or in a companion guide document. and the approaches that RTOs might use to deliver.

- Enduring Skills
  - Growth mindset, principles of learning, continuous learning, life skills
  - Agility – able to adapt using different techniques
  - Critical thinking – sourcing solid information – workshop manuals
  - Decision making – read of flow charts and following procedures
  - Creativity – brainstorming, investigation, open ended questions, looking for novel solutions (accessories, lights, cosmetics)

- STEM Skills
  - Analytical skills - Analysing and interpreting information and assessing the best course of action.
  - Scientific skills - Breaking down scientific concepts and systems.
  - Mathematical skills - Accurately gathering and analysing data. Applying simple and complex equations to solve problems.
  - Technical skills - Troubleshooting and debugging a technological system or repairing a machine.
  - Critical thinking, statistics, engineering-design thinking, problem-solving, creativity

Qualification Reform Demonstration Project - Qualification Alignment

X Aligns with existing unit **X** May align depending upon equipment and tasks chosen by the Training Provider and Industry Support for the task **X** Standard yet to be developed ☐ Beyond the scope of entry-level Qualification

Existing Qualification	Proposed Certificate II in Automotive					
AUR20720 - Certificate II in Automotive Vocational Preparation *Units with over 500 Enrolments*	**AURFUN001 The Automotive Industry**	**COMIPS001 Demonstrate Fundamental Interpersonal Skills**	**MECFUN001 Demonstrate Basic Mechanical Reasoning**	**AURMNT001 Remove and Replace Components**	**ELEFUN001 Fundamental Electrical Principles**	**HYDFUN001 Fundamental Hydraulic Principles**
AURASA102 - Follow safe working practices in an automotive workplace	X		X	X		
AURTTK102 - Use and maintain tools and equipment in an automotive workplace	X		X	X	X	X
AURLTA101 - Identify automotive mechanical systems and components			X	X	X	X
AURAEA002 - Follow environmental and sustainability best practice in an automotive workplace	X			X	X	X
AURETR103 - Identify automotive electrical systems and components					X	
AURAFA103 - Communicate effectively in an automotive workplace	X	X	X	X	X	X
AURAFA104 - Resolve routine problems in an automotive workplace			X	X	X	X
AURTTA127 - Carry out basic vehicle servicing operations				X		
AURETR115 - Inspect, test and service batteries						
AURTTJ003 - Remove and replace wheel and tyre assemblies				X		
AURETR006 - Solder electrical wiring and circuits					X	
AURTTE007 - Dismantle and assemble single cylinder four-stroke petrol engines				X		
AURETK003 - Operate electrical test equipment					X	
AURTTA003 - Use and maintain basic mechanical measuring devices			X	X		
AURTTE003 - Remove and tag engine system components				X		
AURTTB007 - Remove and replace brake assemblies						
AURTTA105 - Select and use bearings, seals, gaskets, sealants and adhesives				X		
AURTTJ011 - Balance wheels and tyres						
AURTTE008 - Dismantle and assemble multi-cylinder four-stroke petrol engines				X		
AURTTA001 - Remove and tag steering, suspension and braking system components				X		X
AURLTJ113 - Remove, inspect and refit light vehicle wheel and tyre assemblies						
AURTTE104 - Inspect and service engines						
AURTTA002 - Assist with automotive workplace activities	X	X	X	X	X	X
AURETR146 - Remove and refit vehicle batteries				X		

Qualification Reform Demonstration Projects

AUSMASA

AUSMASA analysed and tested the Purpose 2 definition and quality principles across the suite of Certificate II Qualifications from the AUR Training Package.

AUSMASA

- Fifteen Certificate II's reduced to four. Three are classified as Purpose 1, and a new, Purpose 2 qualification was developed
- Four revised training product templates to focus on transferable skills, worker mobility and supporting quality training in RTOs
- The Job Profile template allows for skills mapping within and across industries. Foundation Skills are described for each job and flow through to training.
- The Competency Standard describes the skill and emphasises knowledge and its application in the workplace.
- An implementation guide provides RTOs with substantial guidance about the industry context and suitable approaches for delivery and assessment.

SaCSA

SaCSA developed and tested a high-level *skills pathway framework* against Purpose 2 & Purpose 3. The model empowers individuals to create their own educational pathway to achieve personal and professional career goals and aspirations.

SaCSA

- Five qualification 'levels' achieved through clustering knowledge and skills to mimic industry practices
- Combined templates to streamline the TPOF process through a Vocational Stream template
- Removing duplication across the UoC in service skills industries
- Removing Foundation Skills and aligning to the ACSF and Industry Competencies
- A Contextualisation and Mapping Guide to provide RTOs with substantial guidance regarding industry context and approaches for delivery and assessment.

Skills Insight

Skills Insight analysed and tested the concept of 3 Purposes across a range of qualifications and performed a deep dive using the Cert II in Rural Operations. The model reduces learning duplication with a new streamlined approach to training products design.

Skills Insight

- Redesigned training products empower learners to apply their skills and knowledge across tasks, contexts and workplaces.
- Reduced learning duplication through three templates that enhance skill visibility and promote buildable skills and transferability.
- A flexible qualification approach that supports learner pathways and maximizes cross-industry skills application.
- Learning & Assessment and Application Modules, developed with RTOs, deliver measurable outcomes, with contextualisation as needed.
- Reinforced distinction between workplace competency and training competency, acknowledging it continues to develop through real-world practice.

Commonalities in the Outcomes

- Buildable Models focused on Knowledge and Skill
- Qualification Pathways support Flexibility and Worker Mobility
- Accompanying Guides to support RTO Contextualisation and Implementation
- Cultural Shifts required extend beyond Training Packages
- Changes to all Training Product Templates

Ideas for Future Collaborations

1. The JSC's collaborate to develop and agree on a collective approach.
2. The JSC's trial and refine the collective approach.
3. The JSC's work to develop and implement an education program for the sector and stakeholders.

Job Profiles and Pathways

Automotive

Web Based Product

Mining and Automotive Skills Alliance

The landing page would be a selection page - Industry

- Accommodation & Food Services
- Administrative & Support Services
- Agriculture, Forestry & Fishing
- Arts & Recreation Services
- Construction
- Education & Training
- Electricity, Gas, Water & Waste Services
- Financial & Insurance Services
- Health Care & Social Assistance
- Information Media & Telecommunications
- Manufacturing
- Mining
- Automotive
- Professional, Scientific & Technical Services
- Public Administration & Safety
- Rental, Hiring & Real Estate Services
- Retail Trade
- Transport, Postal & Warehousing
- Wholesale Trade

Mining and Automotive Skills Alliance

THINKING ABOUT THE AUTOMOTIVE INDUSTRY

MOTOR SPORT

Motorsport careers offer thrilling opportunities to work with high-performance vehicles, combining technical expertise and passion for racing..

HEAVY INDUSTRY

Heavy industry automotive careers provide the chance to work with powerful machinery, applying technical skills to keep large-scale vehicles and equipment running efficiently.

SALES

Automotive sales careers let you connect customers with their ideal vehicles, combining your passion for cars and people.

ELECTRIC TECHNOLOGY

Green marketing is a practice whereby companies seek to go above.

BODYWORK

Automotive repair and bodywork careers let you transform and restore vehicles, using your hands-on skills to make them look and perform like new.

SERVICING AND REPAIRS

Green marketing is a practice whereby companies seek to go above.

VEHICLE DESIGN

Green marketing is a practice whereby companies seek to go above.

The Automotive Industry

Australia's automotive industry is dynamic and rapidly evolving, offering exciting opportunities for those passionate about vehicles, technology, and innovation. From traditional mechanics to cutting-edge electric vehicle development, the automotive industry plays a crucial role in keeping the country moving.

Whether you're interested in hands-on roles like vehicle repair and maintenance or fascinated by the latest advancements in automotive technology, there's a pathway for you and the demand for skilled professionals in Australia has never been higher. It's an industry where your passion can evolve into a lifelong, rewarding career, with ongoing training and career development opportunities. Jumpstart your journey in one of Australia's most vital and innovative sectors and be part of the future.

BODYWORK

1

BODY COLLISION REPAIRER

Body collision repairers restore damaged vehicles to their original condition, using expert skills to ensure safety, function, and appearance are as good as new

2

VEHICLE TRIMMER

Vehicle trimming careers offer the chance to craft custom interiors, using precision and creativity to enhance the comfort and style of any vehicle

3

AUTOMOTIVE MECHANIC

Automotive mechanics keep vehicles running smoothly and safely by diagnosing and repairing engines, systems, and components with expert hands-on skills.

4

VEHICLE REFINISHER

Vehicle refinishers bring cars back to life with expert paintwork, using precision and artistry to restore or transform a vehicle's appearance.

Mining and Automotive Skills Alliance

Vehicle Trimmer

In Australia, a vehicle trimmer specialises in designing, fabricating, and fitting custom interiors for cars, trucks, and other vehicles, combining craftsmanship with creativity. Their work involves trimming, repairing, or replacing upholstery, carpets, headliners, and other interior components. Vehicle trimmers work closely with clients to meet specific design needs, whether restoring classic cars or creating custom-made interiors for modern vehicles. This role requires a keen eye for detail, precision in cutting and stitching, and a passion for enhancing both the look and comfort of a vehicle's interior, making each project unique. Vehicle trimmers are employed by:

Automotive Upholstery and Customisation Shops	Car Restoration Companies
Car Dealerships	Motorhome and Caravan Manufacturers
Automotive Repair and Body Shops	The Marine and Aviation Industries

The main activities and tasks that vehicle trimmers perform are:

- Removal of old trim, upholstery, and coverings and the measuring up of the cabin and interior for the fitting of new material.
- Use drawings and sketches to prepare that material –fabric, leather, vinyl, or others.
- Use equipment such as measuring and cutting tools and sewing machines to prepare fabrics and stitch material to the required form to fit around the seats, doors, and other components.
- Install and check parts such as window winding mechanisms, door locks, levers, handles, and buttons.
- Potentially work with customers on design, material, and colour choices.

Mining and Automotive Skills Alliance

Vehicle Trimmer

- Completion of a vocational program is usually required. This can be completed via an apprenticeship or non-apprenticeship pathway.
- There are no licensing requirements for Vehicle trimmers.

Personal Attributes

	Low — High Level of Importance
Practically oriented	● ● ○ ○
Dexterous – enjoy working with your hands	● ● ● ○
Detail oriented	● ● ● ○
Creative	● ● ○ ○
Fitness to move and lift component and materials	● ● ○ ○

Mining and Automotive Skills Alliance

Vehicle Trimmer

Description | Employment Requirement | Skills | Knowledge | Foundation Skills | Similar Jobs

A list of key skills and their level of complexity

	Low — High Level of Complexity
Measurement and Calculations	● ● ○ ○
Selecting, trimming and fitting fabrics	● ● ○ ○
Using adhesives	● ● ○ ○
Using tools and machinery	● ● ○ ○
Design interior trims	● ● ● ○

Mining and Automotive Skills Alliance

Vehicle Trimmer

A list of key knowledge and their breadth and complexity

	Low — High Breadth and Complexity
Hand stitching techniques	●●●○
Fabric choices ad usability	●●○○
Hazards and Environmental requirements for handling adhesives	●●○○
Specialist tools and machinery	●●○○
Design principles and colour theory	●●●○

Mining and Automotive Skills Alliance

Vehicle Trimmer

Description | Employment Requirement | Skills | Knowledge | Foundation Skills | Similar Jobs

The foundation skills required in the job and reflected in the training outcomes of the qualification *(where a qualification is aligned to the job).*

- Numeracy
- Digital skills
- Creativity
- Learning
- Reading
- Writing
- Teamwork
- Communication

Vehicle trimmers read design briefs and materials safety data sheets

Vehicle trimmers work within a team and talk about work needs with colleagues. They also discuss designs and provide feedback to clients about the work undertaken and any future work required.

Mining and Automotive Skills Alliance

Job Similarity

Description | Employment Requirement | Skills | Knowledge | Foundation Skills | Similar Jobs

Choose a job from a drop-down list

Vehicle Trimmer

Green marketing is a practice whereby companies seek to go above and beyond traditional marketing by promoting environmental core values in the hope that consumers.

VS

Furniture Upholsterer

Green marketing is a practice whereby companies seek to go above and beyond traditional marketing by promoting environmental core values in the hope that consumers.

Mining and Automotive Skills Alliance

Training

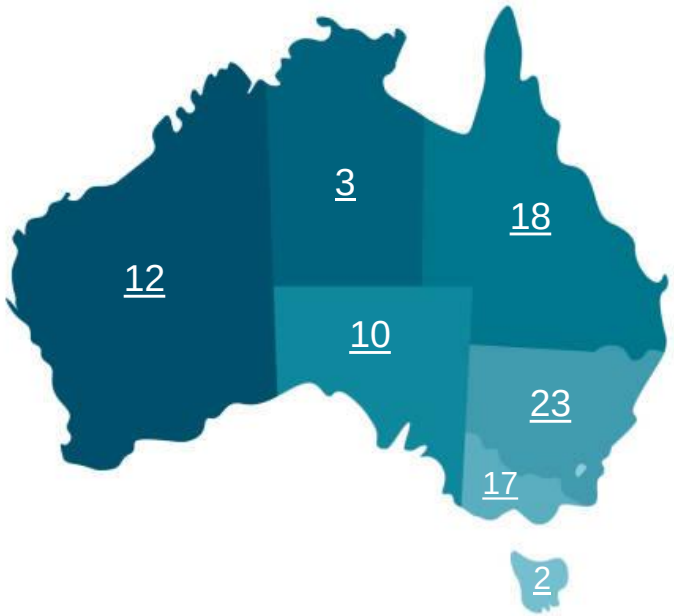
Description | Employment Requirement | Skills | Knowledge | Foundation Skills | Training

Training Pathway

AUR 20X24 Certificate II in Automotive → AUR32320 - Certificate III in Automotive and Marine Trimming Technology → AUR32420 - Certificate III in Automotive Refinishing Technology

Training Providers

Choose your state for a list of Registered Training Organisations offering the qualifications in the Training pathway.



Mining and Automotive Skills Alliance

Training Product Description

Training Product Type

☒ Qualification
☐ Skill Set
☐ Course
☐ Micro-Credential

Training Product Code – *AUR2XX24*

Training Product Name - Certificate II in Automotive

Version History - Version 1

Classification Information

Scheme	Identifier	Classification Value
ANZSCO Identifier		
ASCED Qualification/Course Field of Education Identifier		
Training Product /Course Level of Education Identifier		
Taxonomy - Industry Sector		
Taxonomy - Occupation		

Training Product Developer – **AUSMASA** (*If this were for a training product accredited outside the training package, the developer would be listed here*)

Purpose of the Training Product

This Qualification is a preparatory course for work in the automotive sector. It provides graduates with a broad overview of the automotive industry and workplaces as well as knowledge and skills that could be applied in a range of automotive roles. This includes fundamental mechanical, electrical and hydraulic knowledge and its use in a range of workplace tasks. The qualification also aims to develop the workplace and enduring skills of the learner with particular emphasis on literacy, numeracy, interpersonal skills, teamwork, critical thinking and creativity

Graduates of the qualification will work under supervision in a variety of entry-level jobs.

Entry Profile *(This field is used when there are requirements for entry, it can be removed if there are no mandatory requirements)*

- This section includes any Training Product pre-requisites (*examples where this occurs now include Certificate IV Electrical Instrumentation, Diploma of Early Childhood Education and Care)*

- This section details other mandatory requirements such as licenses/tickets (e.g. WWCC)

- This section should also include any Foundation Skill requirements for entry if applicable. *(There are some training products where readiness is critical. Literacy and numeracy are important in this trial project*)

Foundation Skill	Required Entry Level
Reading	2
Writing	2
Numeracy	2

(*If the students do not meet the Foundation Sills entry requirements, they would be required to complete a preparatory course that is funded and free (A purpose 3 Course?). This is about ensuring that we set students up for success in the course rather than excluding)*.

- This section can include advice to the RTO about other factors that could influence a student's suitability for the job. For example, security guards have English language requirements, custodial officers have physical fitness requirements, and first aiders have physical fitness requirements. This may be related to a unit in the Training Product or the qualification as a whole. The JSC would specify the level of specification.

Training Product Model

Choose one of the four options.

Competency Standard		Curriculum / Module	
Core	Core and Elective	Core	Core and Elective
☒	☐	☐	☐

Competency Standards

The following Competency Standards are required to achieve the Training Product.

Core

AURFUN001	The Automotive Industry
COMIPS001	Demonstrate Fundamental Interpersonal Skills
MECFUN001	Demonstrate Basic Mechanical Reasoning
AURMNT001	Remove and Replace Components
ELEFUN001	Fundamental Electrical Principles
HYDFUN001	Fundamental Hydraulic Principles

Electives *(This section would be used for Training Products that include electives).*

Training Product Delivery and Assessment

Mandatory requirements that are applicable across the Training Product.

- Detailed teaching, learning, and assessment guidance has been developed with industry and is detailed in the AUR Implementation Guide. RTOs may contextualise this information

for their learner cohort and local industry needs. Any contextualization must not compromise the depth, complexity or approach detailed in the guidance materials.
- Industry-validated assessment tools are available <link to agency distributing the tools>
- Any Assessor Requirements – *(Examples could include additional certification, licensing, or registration. This could be at the Training Product level or Competency Standard level depending on the industry sector*)

Pathways

This qualification prepares graduates for initial employment in the Automotive sector. The primary pathway from the qualification is to gain employment as an apprentice in the automotive industry. Completing an apprenticeship will require the completion of a Certificate III qualification.

<Link to job pathway information>

Links to additional information (Where required)

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

COMIPS001- Demonstrate Fundamental Interpersonal Skills

Descriptor

Interpersonal skills are critical in modern work environments. This involves effective and clear verbal and non-verbal communication, active listening, and the ability to adapt communication styles to meet the needs of customers and work teams. Effective interpersonal skills build trust, customer satisfaction and socially safe workplaces.

Application of the Standard

This standard applies to individuals in roles that require interaction with team members, supervisors, and customers. It is suitable for those working under direct supervision as well as those who are responsible for specific tasks and team outcomes.

Pre-Requisites

There are no pre-requisites for this standard.

Licensing

There are no licensing requirements for this standard at the time of publishing.

Links to Supporting Documents

AUR Implementation Guide <link>

MEM Implementation Guide <link>

Standard Requirements

Knowledge	Application of Knowledge and Skill
Effective Communication	
• Principles of effective communication in a workplace context • The key elements of all communication - sender, message, receiver, feedback, context. • Different types of communication and their use in the workplace. • Techniques to improve active listening skills. • Common barriers to communication and ways to overcome the barriers.	• Consistently communicates clearly and respectfully with team members, supervisors, and customers • Uses language, tone, and body language to convey confidence and respect during interactions. • Demonstrates active listening skills by asking clarifying questions and summarising key points to confirm understanding.

Knowledge	Application of Knowledge and Skill
• Techniques for clear and concise communication • The language, tone, and structure suitable for workplace communications.	• Writes clear, concise, and effective messages or updates as part of routine workplace tasks • Displays correct conduct during face-to-face meetings and/or virtual conversations. • Adjusts communication style based on the audience needs.
Workplace Collaboration	
• The benefits of collaboration in the workplace • The types of teams in the workplace • Team roles and responsibilities in the workplace • The role of trust in a collaborative environment. • How to foster trust and respect within a team • How individual actions impact team productivity and workplace safety. • The importance of diversity and inclusiveness in teams • How to remain adaptable when faced with change and challenges in the workplace • The use of collaboration tools and technology • The standards of appearance and behaviour required in customer and team interactions	• Acknowledges the impact and takes responsibility for personal actions and words in the workplace. • Works constructively with team members, showing respect for different opinions and ideas. • Contributes to setting and meeting team goals • Seeks and responds constructively to feedback • Takes responsibility for mistakes or delays in own work and promptly communicates with supervisors. • Is punctual and reliable in the workplace. • Ensures that personal appearance meets organisational standards and reflects Industry expectations.

Modification History

Release	Comments
Release 1	This version was first released for use on <date>. *This section would also have information about previous versions and equivalence*

MECFUN001- Demonstrate Basic Mechanical Reasoning

Descriptor

Mechanical reasoning is the ability to use knowledge of basic mechanical and physical principles, spatial awareness, mathematical concepts, tools and equipment to safely complete mechanical tasks and solve problems in a practical setting.

.

Application of the Standard

This standard applies to individuals preparing for entry-level positions in an industry where mechanical reasoning is required. It is suitable for those working under direct supervision and performing routine tasks.

Pre-Requisites

There are no pre-requisites for this standard.

Licensing

There are no licensing requirements for this standard at the time of publishing.

Links to Supporting Documents

AUR Implementation Guide <link>

MEM Implementation Guide <link>

Standard Requirements

Knowledge	Application of Knowledge and Skill
Mechanical and Physical Principles	
• Basic mechanical principles including force, motion, and energy. • Basic physical principles including gravity, velocity, heat, and friction. • Types of simple machines and their mechanical benefit. • How mechanical and physical principles apply to mechanical systems and components. • The concept of mechanical efficiency and causes of inefficiency.	• Explains how basic mechanical and physical principles are used in key industry systems and components.

Knowledge	Application of Knowledge and Skill
Spatial Perception and Situational Awareness	
• Why spatial perception and situational awareness is important in the workplace • How to visualise objects in space, their orientation and possible movement or interaction • The mental rotation of objects to understand different perspectives • How to judge the size, shape and distance of objects in relation to one another • The process of recognising and understanding the dynamics of the environment to make informed decisions. • The levels of situational awareness	• Uses situational awareness to maintain workplace safety. • Visualises machines and components from different perspectives. • Perceives own position in space, to maintain motor control during work tasks • Demonstrates hand-eye coordination during work tasks.
Mechanical Components and Systems	
• The purpose and function of the fundamental mechanical systems in workplace equipment and machines • The purpose and function of fundamental mechanical components including bearings, gears, shafts and belts • The symbols and notations used in mechanical schematics and their meaning • Problem-solving tools and techniques and their use in industry. • Basic mechanical issues and their causes and rectification. • Common tools and equipment used in mechanical maintenance.	• Applies mathematical concepts to solve simple mechanical problems. • Applies problem-solving skills to identify and rectify basic mechanical issues. • Uses standard procedures for basic mechanical tasks. • Uses common tools and equipment correctly and safely to complete workplace tasks.

Modification History

Release	Comments
Release 1	This version was first released with AUR Automotive Retail, Service and Repair Training Package Version X *This section would also have information about previous versions and equivalence*

AURFUN001- The Automotive Industry

Descriptor

This standard provides foundational knowledge of the automotive industry and the diverse career opportunities in trade and non-trade pathways. The industry is being shaped by emerging technologies and innovations that impact job responsibilities and opportunities, as well as the way work is carried out, and the work environment.

.

Application of the Standard

This standard applies to individuals starting careers in the automotive industry. It is suitable for entry-level positions where the individual will be working under direct supervision and performing routine tasks.

Pre-Requisites

There are no pre-requisites for this standard.

Licensing

There are no licensing requirements for this standard at the time of publishing.

Links to Supporting Documents

AUR Implementation Guide <link>

MEM Implementation Guide <link>

Standard Requirements

Knowledge	Application of Knowledge
Overview of the automotive industry	
• The history and evolution of the automotive industry • Trends in the automotive industry, markets and impact on economies. • Key sectors and career pathways within the automotive industry. • Emerging technologies in the automotive industry. • Digital transformation and the workplace of the future	• Uses knowledge of the structure and expectations of automotive service environments to plan potential career paths. • Improves automotive industry knowledge and contributes to the work environment

Knowledge	Application of Knowledge
The Automotive Work Environment	
• Common workplace documents, including work procedures, charts, and service reports. • The standard formats and protocols for documentation in an automotive environment. • The importance of accuracy in completing forms, reports, and other documentation. • Ways to respond to unfamiliar tasks or information • Learning to navigate systems for accessing technical documentation and work orders	• Access resources, such as service manuals, diagrams, or instructions, to complete tasks. • Follows workplace procedures to complete tasks • Accurately completes workplace documentation • Seeks clarification when a task or procedure is unclear or unfamiliar. • Adapts to new requirements in tasks or the workplace.
Safety in an Automotive Workplace	
• How the legislation and regulation inform workplace safety • Core principles of workplace safety in an automotive setting. • Hazardous areas in an automotive workplace. • Safe handling procedures for tools, machinery, and materials commonly used in the industry. • The personal protective equipment (PPE) requirements for common automotive tasks. • How to Identify and report potential hazards in the workplace. • The environmental and sustainability practices used in automotive workshops	• Follows workplace safety procedures. • Selects and uses PPE correctly for common tasks • Identifies hazards and follows procedures to implement control measures. • Communicates safety concerns to supervisors and team members promptly. • Safely operates basic automotive tools and equipment under supervision • Correctly handles, stores, removes, and disposes of lubricants and fluids.

Modification History

Release	Comments
Release 1	This version was first released with AUR Automotive Retail, Service and Repair Training Package Version X *This section would also have information about previous versions and equivalence*

AURMNT001- Remove and replace components

Descriptor

Removing and replacing components is part of fit-out servicing and routine maintenance processes. It involves using information and data from relevant people and systems to confirm the work requirements and ensure safety is maintained at all times. The work is conducted using the manufacturer's instructions and complies with legislation and procedures relevant to the workplace. Testing is undertaken to ensure correct operation.

Application of the Standard

This standard applies to individuals in fit-out, servicing and maintenance positions in industry. It is suitable for those working under direct supervision and performing routine tasks.

Pre-Requisites

There are no pre-requisites for this standard.

Licensing

There are no licensing requirements for this standard at the time of publishing.

Links to Supporting Documents

AUR Implementation Guide <link>

MEM Implementation Guide <link>

Standard Requirements

Knowledge	Application of Knowledge and Skill
Follows the plan and sequence of work	
• Technical and procedural information that is used for the task • The purpose and function of tooling and equipment used for the task • Indicators of worn, damaged, defective or expired tooling and equipment • Tooling and equipment needed to replace a range of components.	• Reviews information from the manufacturer's instructions, workplace procedures and relevant personnel to ensure the work can be completed • Ensures all required equipment, tooling, components, and relevant personnel are available and in good working order before commencing the work task

Knowledge	Application of Knowledge and Skill
• Workplace and environmental hazards and risks and controls relevant to the task and work environment.	• Monitors and controls hazards and risks related to the task as part of planning and when conducting the work.
Removes and Replaces Components	
• The correct functioning of the equipment, systems and their components. • Indicators of wear, damage and malfunctioning in components. • Removal and replacement processes. • Maintenance and workplace records • Processes used to clean, lubricate and maintain tooling and equipment • Workplace processes for storing and disposal of tooling, equipment and materials.	• Demonstrates pre-start and walk-around inspection, parking or any shut-down procedures. • Removes worn, damaged or defective components and replaces them with a new component. • Safely disposes of replaced materials and components in accordance with relevant environmental policies and procedures. • Completes maintenance records and any required workplace documentation • Cleans, maintains and restores the work area, equipment, and tooling.
Inspects and Tests Components	
• The specifications and/or testing requirements of components, systems, or equipment. • Testing tools and procedures. • Test processes for components	• Tests the replaced component is operating correctly and makes any necessary adjustments.

Modification History

Release	Comments
Release 1	This version was first released with AUR Automotive Retail, Service and Repair Training Package Version X

Mining and Automotive Skills Alliance

Implementation Guide

Automotive

September 2024

Contents

Part 1 – Implementation Guide

Training Package Implementation Overview – Mandatory

Training Package level information

Introduction

- Purpose of the Guide
- Overview of New Qualifications
- Alignment with Industry Needs and Standards and any impact on training pathways

Quality Assurance

- Internal Quality Assurance Mechanisms
- External Accreditation and Audits (Where Relevant)

Monitoring and Evaluation

- Feedback Mechanisms for Continuous Improvement
- User Surveys and Feedback Forms

Appendices

- Glossary of Terms
- References and Further information

Training Product Implementation

Getting Started

- Regulatory and Compliance Requirements
- Stakeholder Engagement and Communication

Industry Collaboration

- Partnerships with Industry Stakeholders
- Work-Based Learning Opportunities
- Guest Lectures and Industry Visits

Learning Design and Development

- Competency-Based Learning Framework
- **Development of Learning Outcomes and Objectives**
- **Integration of Foundation Skills and Technical Skills**
- Customisation for Different Learner Groups

Program Delivery

- **Teaching and Assessment Strategies**
- Blended Learning Approaches
- Student Engagement Techniques
- **Assessment Processes**

Support and Resources

- **Additional Learning Materials and Resources**
- Community of Practice and Peer Support Network

Case Studies of Effective Practices

- Success Stories from the Sector
- Lessons Learned
- Examples of Effective Practices

Challenges and Solutions

- Common Implementation Challenges and ideas/strategies for Problem Solving
- Contact Information for Further Assistance

Learning Design and Development

Certificate II in Automotive - Course Overview

The Certificate II in Automotive is a preparatory course for work in the automotive sector. It provides graduates with a broad overview of the automotive industry and workplaces as well as knowledge and skills that could be applied in a range of automotive roles. This includes fundamental mechanical, electrical and hydraulic knowledge and its use in a range of workplace tasks. The qualification also aims to develop the workplace and enduring skills of the learner with particular emphasis on literacy, numeracy, interpersonal skills, teamwork, critical thinking and creativity. The course addresses the content of six mandatory competency standards.

01

The Automotive Industry

Overview of the automotive industry, workplace safety and practices and possible career paths

02

Interpersonal skills

The fundamental skills required by all workers to be effective, build trust and socially safe workplaces

03

Mechanical Reasoning

The foundational knowledge and skills in mechanical reasoning, critical for understanding and troubleshooting mechanical systems.

04

Electrical Fundamentals

Overview statement

05

Hydraulic Fundamentals

Overview statement

06

Remove and Replace Components

The technical knowledge and the practical skills to remove and replace automotive components while adhering to safety standards and operational procedures.

Foundation Skills

The foundation skill information is based on the Job Profile. *This qualification is not directly aligned with a job and in these circumstances, we would indicate the development level to be achieved at the completion of the qualification*.

	Beginner	Advanced Beginner	Capable	Highly Skilled
Speaking and Writing	Communicates basic information and ideas using simple language and phrases	**Conveys information and ideas clearly using appropriate language for the workplace and audience**	Engages in effective two-way communication, asking questions to clarify understanding	Demonstrates clear and concise communication in various contexts, including both verbal and written forms, and effectively communicates concepts and solutions
Work with Others	Participates in team activities with guidance and support	**Contributes to team activities and shares information willingly**	Works collaboratively with others, demonstrating respect and understanding	Actively supports team goals, resolves conflicts constructively, and fosters a collaborative team environment
Problem-Solving	Identifies basic problems with guidance	**Applies simple strategies to solve routine problems**	Uses logical steps to solve problems independently, seeking assistance when necessary	Demonstrates effective problem-solving in various situations, using creative and innovative approaches
Initiative and Enterprise	**Follows instructions and completes tasks as directed**	Shows some initiative in completing tasks and identifying simple improvements	Takes responsibility for own work and suggests ways to improve processes	Demonstrates proactive behaviour and contributes to innovative ideas and solutions, showing leadership in task completion
Planning and Organising	Completes tasks with supervision and uses provided resources	**Plans and organises own tasks with minimal supervision**	Manages time effectively to complete tasks and meet deadlines	Plans and prioritises tasks efficiently, adapting to changing priorities and requirements

	Beginner	Advanced Beginner	Capable	Highly Skilled
Self-Management	**Manages own behaviour and responds positively to feedback**	Sets personal goals and takes steps to achieve them	Demonstrates self-discipline and manages stress effectively	Reflects on own performance and seeks continuous improvement, showing adaptability in various work situations
Learning	Engages in learning activities with support	**Applies new knowledge and skills in familiar contexts**	Seeks opportunities to learn and develop new skills independently	Continuously updates skills and knowledge, demonstrating a commitment to lifelong learning and adaptability
Technology	Uses basic digital tools and technology with assistance	**Operates common digital tools and technology independently**	Utilises digital tools and technology effectively to complete tasks and solve problems	Adapts to new digital tools and technologies and integrates them into work practices efficiently
Numeracy	Recognises and understands basic written and spoken instructions. Performs simple mathematical calculations with guidance	**Reads and comprehends workplace documents and instructions. Completes routine mathematical tasks with minimal supervision.**	Interprets and applies information from various written and oral sources. Solves workplace problems using appropriate numerical methods	Demonstrates high-level literacy and numeracy skills, ensuring accurate interpretation and effective application of information in tasks

01 Learning Objective Overview – The Automotive Industry

Section	Objectives			
Section 1 The Automotive Industry	1. Describe the history and significance of the automotive industry for Australia and globally	2. Explain the major sectors within the automotive industry and potential career pathways in both trade and non-trade roles	3. Explore emerging technologies and trends in the automotive industry and their impact on job roles and industry practices	4. Develop a potential career plan in the automotive industry based on personal interests and possible roles.
Section 2 Workplace Documentation and Procedures	1. Describe the range of technical and procedural information used in an automotive workshop	2. Explain how to locate and use technical and procedural information relevant to workplace tasks	3. Use automotive documentation systems and protocols efficiently, including both digital and paper-based formats.	4. Accurately interpret and complete common workplace documents.
Section 3 Safety Practices in the Automotive Workplace	1. Describe how workplace safety legislation and regulations keep workers safe in an automotive context.	2. Explain how safe systems of work are used in an automotive workplace.	3. Explain the range of hazards and risks that are present in an automotive workplace	4. Identify and report workplace and environmental hazards and risks relevant to the task and work environment

Section	Objectives			
	5. Explain the control measures used to manage hazards and risks during workplace tasks	6. Select and use the correct personal protective equipment (PPE) for a range of tasks in an automotive setting	7. Safely operate basic automotive tools and equipment under direct supervision, following established procedures	8. Safely handle, store, and dispose of automotive lubricants, fluids, and other hazardous materials following workplace and environmental guidelines.
Section 4 Working in the Automotive Environment	1. Perform basic automotive tasks under supervision.	2. Respond to unfamiliar tasks or information.	3. Use critical thinking to troubleshoot basic mechanical or procedural issues	4. Adapt to new technologies, work environments, or changes in job requirements.
	5. Seek feedback from supervisors and peers to improve performance on assigned tasks.			
Section 5 Sustainability and Environmental Awareness	1. Explain the importance of environmental sustainability in the automotive industry,	2. Apply environmentally safe practices when handling automotive materials, including proper disposal	3. Identify opportunities to reduce waste and improve sustainability within	

Section	Objectives			
	particularly in workshops.	methods for hazardous waste.	the automotive workplace.	

06 Learning Objective Overview – Remove and Replace Components

Section	Objectives			
Section 1 Equipment and Tooling	1. Identify and access the necessary tooling and equipment for replacing a range of automotive components.	2. Explain the function of tooling and equipment used for the tasks	3. Recognise worn, damaged, defective, or expired tooling and equipment according to safety regulations and manufacturers' service information.	
Section 2 Hazard and Risk Management	1. Identify workplace and environmental hazards and risks relevant to the task and work environment.	2. Explain the control measures used to manage hazards and risks during the removal and replacement of automotive components		
Section 3 Component Replacement Processes	1. Explain the correct functioning of equipment systems and their components.	2. Recognise wear, damage, and malfunctioning in automotive components	3. Explain the procedures and processes for removing and replacing various automotive components according to	4. Remove and replace various automotive components according to manufacturer specifications

Section	Objectives			
			manufacturer specifications	
Section 4 Testing and Adjustments	1. Explain how to locate the specifications and testing requirements of automotive components, systems, or equipment.	2. Identify and access the required testing tools and procedures	3. Explain the relevant test processes for the components and work tasks	
Section 5 Maintenance and Documentation	1. Describe the processes for cleaning a variety of tooling, equipment, and the work area.	2. Explain the processes for lubricating and maintaining tooling and equipment according to manufacturers' service information	3. Explain the requirements for storing and disposing of tooling, equipment, and materials used for the work task.	4. Complete the required maintenance and workplace records for the task.
Section 6 Safety Procedures and Effective Communication	1. Demonstrate adherence to safety procedures and report potentially	2. Communicate effectively in one-on-one and small group situations, including with supervisors, other		

Section	Objectives			
	unsafe conditions in the workplace.	employees, or customers.		

Program Delivery

01 The Automotive Industry

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy

The Automotive Industry
 	
1. Describe the history and significance of the automotive industry for Australia and globally
2. . Explain the major sectors within the automotive industry and potential career pathways in both trade and non-trade roles
3. Explore emerging technologies and trends in the automotive industry and their impact on job roles and industry practices
4. Develop a potential career plan in the automotive industry based on personal interests and possible roles.
	The automotive sector and its historical impact.
	
	• The automotive industry shaped modern society, beginning in the late 19th century.
	• **Key figures**: Karl Benz (Germany), Henry Ford (USA).
	• **Ford's mass production** techniques revolutionised manufacturing and made cars affordable.
	• **In Australia**: Local manufacturing by Ford, Holden, and Toyota began in the early 20th century.
	  ○ Contributed to the economy and employment but declined due to global competition, with the last plant closing in 2017.
	• **Global impact**: Massive contributor to economic growth, supporting industries like steel, rubber, and electronics.
	  ○ Key role in technological advancements that influence
		Interactive Presentation: Introduce the history, sectors, technologies, and career opportunities in the automotive industry using visuals, videos, and discussion prompts.
		
		Class Discussion: Engage students by asking about their current understanding of the automotive industry and recent technologies.
		
		Storytelling: Explain the historical development of the automotive industry globally and in Australia.
		
		Timeline Activity: Provide a timeline for students to fill in key milestones during the discussion.
		
		Group Activity: Assign groups to research one of the key sectors (manufacturing, retail, repair, logistics, non-trade roles) and present their findings on job roles, skills, and career paths followed by a Q&A session.
		
		Technology Showcase: Show videos or demonstrations of electric vehicles,
			Overall Strategy
			• Clustered assessment is most appropriate for this module.
			• Combine formative and summative assessments to ensure a comprehensive assessment of the learner's competency.
			• Use practical exercises to assess skills and integrate questioning to establish the application of knowledge.
			• Include both individual and group assessments to foster collaboration and

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy

	other sectors (e.g., aerospace, electronics).
	
	Major Sectors Within the Automotive Industry and Career Pathways
	• **Manufacturing**:
	  ○ Careers in vehicle assembly, component production, and quality control.
	  ○ Internationally, companies like Toyota, Ford, and Volkswagen lead.
	• **Retail and Sales**:
	  ○ Roles: Vehicle sales consultants, parts specialists, dealership management.
	  ○ Requires strong customer service skills and knowledge of modern vehicle technologies.
	• **Maintenance and Repair**:
	  ○ Trade-based roles: Automotive mechanics, panel beaters, auto electricians.
	  ○ Skills required in diagnostics, mechanical, electrical, and bodywork repairs.
	  ○ **Emerging focus**: Electric and hybrid vehicle maintenance.
		autonomous cars, and connected vehicles. Explain how these technologies impact job roles.
		
		Case Study Analysis: Present a case study on a company adopting emerging technologies and discuss the impact on jobs and industry practices.
		
		Examples : Fortesque – Hydrogen Fuel Cell Haul Trucks
		
		Career Mapping Exercise: Guide students in creating a career plan based on their interests, potential roles, and required education/training.
		
		One-on-One Feedback: Provide individual feedback on career plans during the exercise.
		
		Guest Speaker or Virtual Tour: Invite an industry professional or provide a virtual tour to give students insight into real-world job roles.
			individual accountability.
			
			Formative Assessments
			• Quizzes: Regular short quizzes to assess understanding of key concepts and technical knowledge.
			• Practical Exercises: Frequent hands-on tasks to practice and demonstrate skills in a controlled environment.
			• Class Participation: Active engagement in discussions, workshops, and group activities.

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy

	• **Logistics and Supply Chain**:
	  ○ Roles: Logistics coordinators, supply chain managers, warehouse operatives.
	  ○ Focus on inventory management, transportation logistics, and supply chain optimisation.
	• **Non-Trade Roles**:
	  ○ Roles: Marketing, finance, management.
	  ○ Automotive marketing professionals promote brands and services, while finance roles focus on budgeting and sales financing.
	
	Emerging Technologies and Trends in the Automotive Industry
	• **Electric and Hybrid Vehicles**:
	  ○ Growing demand for electric vehicles (EVs) and hybrids.
	  ○ New roles in battery technology, electric motor maintenance, and charging infrastructure.
	• **Autonomous Vehicles**:
	  ○ Self-driving cars use sensor systems, AI, and machine learning.
			Summative Assessment
			
			Holistic Project/s
			
			• Project Planning: Evaluation of the ability to plan and prepare for a task, including gathering technical information and resources.
			• Risk Assessment: Assessment of hazard identification and risk management skills.
			• Component Removal and Replacement: Practical evaluation of removing and replacing automotive components.
			• Testing and Adjustments: Assessment of

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	○ Emerging careers in software development, sensor technology, and vehicle testing. • **Connected Vehicles**: ○ **V2X technology**: Enhances safety, efficiency, and communication between vehicles. ○ Professionals need skills in software integration, data security, and diagnostics. • **Sustainable Materials and Practices**: ○ Shift towards sustainable materials and eco-friendly production methods e.g. hydrogen ○ Careers focus on sustainable manufacturing practices and regulatory compliance. **Developing a Career Plan in the Automotive Industry** • **Assess Your Interests**: ○ Identify areas of the industry that align with your strengths (e.g., trade-based roles for hands-on work, business roles for management). • **Research the Industry**:		testing procedures and making necessary adjustments. • Maintenance and Documentation: Evaluation of cleanliness, maintenance practices, and accurate record-keeping. • Communication and Presentation: Assessment of the ability to present project outcomes and communicate effectively. • Integrated questioning to confirm the application of knowledge. Adjusting the project approach for learner cohorts with specific needs may be necessary. When this

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	○ Stay updated on trends like EVs, autonomous vehicles, and connected technologies. ○ Seek relevant training programs (e.g., EV maintenance). • **Seek Education and Training**: ○ Trade roles: Apprenticeships or vocational training. ○ Non-trade roles: Degrees in business, marketing, engineering. • **Set Career Goals**: ○ Short-term: Complete certifications, and gain experience through internships. ○ Long-term: Specialise in areas like autonomous vehicles or dealership management. • **Find Mentors and Networks**: ○ Connect with professionals through mentorship or networking events. ○ Leverage industry associations for insights and opportunities.		is required, ensure that the overall strategy is maintained.
Workplace Documentation and Procedures	Overview of an automotive workshop:	Discussion: Introduction to the automotive workshop environment and types of technical information.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
1. Describe the range of technical and procedural information used in an automotive workshop. 2. Explain how to locate and use technical and procedural information relevant to removing and replacing automotive components. 3. Use automotive documentation systems and protocols efficiently including both digital and paper-based formats 4. Accurately interpret and complete common workplace documents.	• Introduction to the layout and organisation of a typical automotive workshop. • Roles and responsibilities of workshop staff. • Importance of workshop safety and cleanliness. Types of technical and procedural Information: • Technical manuals, manufacturer instructions, and service bulletins. • Workplace procedures and safety protocols. • Importance of accurate and up-to-date technical information. Methods to locate and interpret technical Information: • How to use online databases and physical manuals. • Navigating service and repair software. • Interpreting schematics, diagrams, and part catalogues Completing Documentation • Key sections in the documents. • Step-by-step instructions for completing each section. • Emphasise data accuracy	Hands-On Practice: Guided exercises on locating and using technical manuals and manufacturer instructions. Case Studies: Analyse real-world scenarios to understand the application of technical information. Group and Individual Exercises: Complete workplace documentation for a range of practice tasks.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	• Clear and Concise Language • Demonstrate how to review completed documents for accuracy, completeness, and compliance with industry standards.		
Safety Practices in the Automotive Workplace 1. Describe how workplace safety legislation and regulations keep workers safe in an automotive context 2. Explain how safe systems of work are used in an automotive workplace 3. Explain the range of hazards and risks that are present in an automotive workplace 4. Identify and report workplace and environmental hazards and risks relevant to the task and work environment 5. Explain the control measures used to manage hazards and	Workplace Safety Legislation and Regulations • Overview of key workplace safety laws and regulations (e.g., Workplace Health and Safety Act). • Importance of compliance with safety regulations to prevent injuries. • How legislation protects workers through enforced safety standards, mandatory training, and inspections. Safe Systems of Work • Definitions of hazards and risks. • The importance of proactive risk management Definition and purpose of safe work systems (e.g., Standard Operating Procedures). • How safe work systems guide tasks to minimise risks. • Role of risk assessments, safety checklists, and permits in ensuring safe task completion.	Discussion: to explain key concepts, such as workplace safety laws, safe systems of work, hazards and risk management principles. Real-world examples where students analyse the case and identify what went wrong, which safety regulations were breached, and how it could have been prevented. Simulation: Roleplay exercises to practice using hazard and risk assessment tools. Collaborative activities to identify and propose control measures for various hazards. Demonstrations and Hands-On Practice for students to learn about PPE and the use of tools and equipment.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
risks during workplace tasks 6. Select and use the correct personal protective equipment (PPE) for a range of tasks in an automotive setting 7. Safely operate basic automotive tools and equipment under direct supervision, following established procedures 8. Safely handle, store, and dispose of automotive lubricants, fluids, and other hazardous materials following workplace and environmental guidelines.	Hazards and Risks in the Automotive Workplace • Common physical hazards: slips, trips, falls, sharp objects. • Mechanical hazards: moving parts, heavy lifting, electrical issues. • Chemical hazards: exposure to hazardous fluids, gases, and lubricants. • Environmental hazards: poor ventilation, noise, and heat. Using Hazard and Risk Assessment Tools: • Types of assessment tools (checklists, risk matrices, etc.). • How to conduct a risk assessment Identifying and Reporting Hazards • Steps for identifying hazards: inspections, observing unsafe conditions, and near-miss incidents. • Reporting procedures: who to report to, forms to complete, and follow-up actions. • Importance of proactive hazard identification to prevent accidents. Control Measures for Hazards • Types of control measures: examples for each of the hierarchy of controls.		

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	• Monitoring the controls to ensure effectiveness. Personal Protective Equipment (PPE) • Types of PPE used in automotive settings: gloves, safety glasses, ear protection, steel-cap boots, high visibility clothing. • Guidelines for selecting the right PPE for specific tasks • Proper use, maintenance, and storage of PPE. Safe use of Basic Automotive Tools and Equipment • Safe use of hand tools (e.g., wrenches, screwdrivers), power tools (e.g., drills, grinders), and lifting equipment (e.g., jacks, hoists). • Importance of following manufacturer instructions and safety guidelines. • Role of supervision in ensuring safety when using tools and equipment. Handling and Disposal of Hazardous Materials		

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	• Safe handling procedures for automotive fluids (e.g., oil, coolant, brake fluid) and chemicals. • Storage requirements for flammable and hazardous substances (e.g., properly labelled containers, secured storage areas). • Proper disposal methods in line with environmental and workplace regulations (e.g., recycling, hazardous waste disposal).		
Working in the Automotive Environment 1. Perform basic automotive tasks under supervision 2. Respond to unfamiliar tasks or information 3. Use critical thinking to troubleshoot basic mechanical or procedural issues 4. Adapt to new technologies, work environments, or	Automotive Tasks • Introduction to fundamental tasks (e.g., fluid changes, tyre rotations, basic inspections, battery charging). • Importance of following supervisor instructions and workplace procedures. • Safe use of basic tools and equipment under supervision (e.g., wrenches, jacks, lifts). • Adherence to safety protocols and PPE usage during tasks. Responding to unfamiliar or unexpected situations	Demonstration: Show students how to perform basic tasks emphasising safety and step-by-step procedures. Guided Practice: Have students perform these tasks under direct supervision, with feedback given in real-time. Hands-On Workshops: Provide practical workshops where students can apply their knowledge to real-world automotive tasks. Task Checklists: Provide a checklist of steps to complete each task, reinforcing procedural accuracy and safety measures.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
changes in job requirements 5. Seek feedback from supervisors and peers to improve performance on assigned tasks.	• Strategies for approaching unfamiliar tasks (e.g., asking questions, seeking clarification). • How to use technical documentation, manuals, and online resources to understand new tasks. • Importance of patience and adaptability when faced with new challenges. Troubleshoot Basic Mechanical and Procedural Issues • Introduction to common mechanical issues (e.g., engine misfires, brake wear, flat batteries) and basic troubleshooting steps. • Use of diagnostic tools (e.g., code readers, pressure gauges) to identify mechanical problems. • Step-by-step problem-solving process (identify the issue, gather information, develop solutions). • Role of logical thinking in resolving procedural Being adaptable and responsive in the workplace	Scenario-Based Learning: Present students with unfamiliar tasks or situations and encourage them to use available resources to solve the problem. Problem-Solving Group Work: Assign small groups to tackle unfamiliar challenges together, fostering teamwork and shared problem-solving strategies. Peer Review and Feedback Sessions: Have students work in pairs or groups and provide feedback to each other on task performance, emphasising constructive criticism and self-improvement. Personal Reflection: Encourage students to reflect on the feedback they've received and outline how they plan to improve their performance.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	• Importance of continuous learning and upskilling to stay current with new technologies. • Strategies for adapting to changes in the workplace (Learning Mindset, asking supervisors or peers for clarification, participating in additional training programs). • Flexibility in switching between different tasks or environments (e.g., workshop, customer site). Feedback and Improvement • Importance of seeking and accepting constructive feedback. • How to actively request feedback during and after tasks (e.g., checking in with supervisors). • Using feedback to identify areas for improvement and set personal goals. • Collaboration with peers to learn from their experiences and techniques.		
Sustainability and Environmental Awareness	Environmental Sustainability in the Automotive Industry • Overview of environmental impacts caused by the automotive industry	**Discussion** Facilitate a class discussion on why sustainability is important and ask students to share examples of environmentally friendly practices they've	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
1. Explain the importance of environmental sustainability in the automotive industry. 2. Apply environmentally safe practices when handling automotive materials, including proper disposal methods for hazardous waste. 3. Identify opportunities to reduce waste and improve sustainability within the automotive workplace	(e.g., emissions, resource consumption, pollution). • Role of the automotive industry in contributing to climate change and air pollution. • Government regulations and industry standards for sustainability (e.g., emissions targets, fuel efficiency requirements). • Importance of transitioning to sustainable practices (e.g., electric vehicles, renewable energy use in manufacturing). • Benefits of sustainability for the industry: cost savings, improved public perception, and regulatory compliance. Environmentally Safe Practices • Safe handling and storage of automotive chemicals (e.g., oil, coolant, brake fluid, batteries). • Procedures for disposing of hazardous waste (e.g., used oil, batteries, tyres) in compliance with environmental laws. • Recycling processes for automotive parts and materials (e.g., metals, plastics, tyres).	seen in the automotive industry or other sectors. **Hands-on demonstrations and practice** to practice these techniques in a workshop setting (e.g., safely disposing of used oil, sorting recyclable materials). **Sustainability Audit.** Split students into groups and assign them different areas to audit (e.g., material waste, energy use, hazardous waste management). **Project-Based Learning** Assign a project where students must create a sustainability plan for a hypothetical or real automotive workshop, including strategies for waste reduction, energy conservation, and sustainable sourcing of materials. Have students present their plans to the class, explaining their approach and the potential impact on the environment and business operations. **Guest Speakers** Invite sustainability experts or environmental officers from the automotive industry to speak about their experiences and the importance of eco-friendly practices in the workplace	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	• Importance of using biodegradable or eco-friendly cleaning products and solvents. • Following workplace guidelines for reducing environmental risks (e.g., spill kits, waste separation, and labelling). Opportunities to Improve Sustainability Within the Automotive Workplace • Methods for reducing material waste (e.g., using reusable parts, minimising packaging, optimising inventory management). • Energy conservation strategies in the workshop (e.g., using energy-efficient equipment, turning off machines when not in use). • Water conservation practices (e.g., reducing water usage in cleaning, recycling wash water). • Promoting a culture of sustainability within the workplace (e.g., staff training on sustainable practices, and setting sustainability goals). • Innovations in automotive design and manufacturing aimed at improving sustainability (e.g., lightweight materials, sustainable		

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
	sourcing, 3D printing for reduced waste).		

Supporting Resources

List resources if they are available.

06 - Remove and Replace Components

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
Introduction to Automotive Workshops and Technical Information 1. Describe the range of technical and procedural information used in an automotive workshop. 2. Explain how to locate and use technical and procedural information relevant to removing and replacing automotive components.	Overview of an automotive workshop: • Introduction to the layout and organisation of a typical automotive workshop. • Roles and responsibilities of workshop staff. • Importance of workshop safety and cleanliness. Types of technical and procedural Information: • Technical manuals, manufacturer instructions, and service bulletins. • Workplace procedures and safety protocols. • Importance of accurate and up-to-date technical information. Methods to locate and interpret technical Information: • How to use online databases and physical manuals. • Navigating service and repair software. • Interpreting schematics, diagrams, and part catalogues	Discussion: Introduction to the automotive workshop environment and types of technical information. Hands-On Practice: Guided exercises on locating and using technical manuals and manufacturer instructions. Case Studies: Analyse real-world scenarios to understand the application of technical information.	**Overall Strategy** • Combine formative and summative assessments to ensure a comprehensive assessment of the learner's competency. • Use practical exercises to assess skills and integrate questioning to establish the application of knowledge. • Include both individual and group assessments to foster collaboration and individual accountability. **Formative Assessments**
Equipment and Tooling	Types of Tools and Equipment:	Demonstration: Show the correct use of	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
1. Identify and access the necessary tooling and equipment for replacing a range of automotive components. 2. Explain the function of tooling and equipment used in an automotive workplace. 3. Recognise worn, damaged, defective, or expired tooling and equipment according to safety regulations and manufacturers' service information	• Hand Tools: Wrenches, screwdrivers, pliers, etc. • Power Tools: Drills, impact wrenches, grinders, etc. • Special Purpose Tools: Timing lights, compression testers, scan tools, etc. • Lifting and Supporting Equipment: Jacks, hoists, stands, etc. • Oxyacetylene Cutting Equipment: Uses and safety procedures. • Electronic Equipment and Systems: Diagnostic tools, multimeters, oscilloscopes, etc. Proper Use and Maintenance of Tools and Equipment: • Correct usage techniques for each type of tool. • Regular maintenance and calibration procedures. • Safety checks and storage protocols. Identifying and Reporting Defective Tools and Equipment: • Signs of wear, damage, and defects. • Procedures for reporting and replacing faulty equipment.	various tools and equipment. Interactive Workshop: Hands-on practice using different tools and equipment. Inspection Activity: Practice identifying worn or defective tools and understanding maintenance protocols	• Quizzes: Regular short quizzes to assess understanding of key concepts and technical knowledge. • Practical Exercises: Frequent hands-on tasks to practice and demonstrate skills in a controlled environment. • Class Participation: Active engagement in discussions, workshops, and group activities. **Summative Assessment** Holistic Project/s • Project Planning: Evaluation of the ability to plan and prepare for a task, including gathering technical information and resources.
	Principles of Hazard and Risk Management:		

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
Hazard and Risk Management 1. Explain how to use hazard and risk assessment tools. 2. Identify workplace and environmental hazards and risks relevant to the task and work environment. 3. Explain the control measures used to manage hazards and risks during the removal and replacement of automotive components.	• Definitions of hazards and risks. • The importance of proactive risk management. Using Hazard and Risk Assessment Tools: • Types of assessment tools (checklists, risk matrices, etc.). • How to conduct a risk assessment. Control Measures for Managing Risks: • Engineering controls (e.g., ventilation, guarding). • Administrative controls (e.g., training, signage). • Personal protective equipment (PPE).	Discussion: Introduction to hazard and risk management principles. Simulation: Roleplay exercises to practice using hazard and risk assessment tools. Group Work: Collaborative activities to identify and propose control measures for various hazards.	• Risk Assessment: Assessment of hazard identification and risk management skills. • Component Removal and Replacement: Practical evaluation of removing and replacing automotive components. • Testing and Adjustments: Assessment of testing procedures and making necessary adjustments. • Maintenance and Documentation: Evaluation of cleanliness, maintenance practices, and accurate record-keeping. • Communication and Presentation: Assessment of the ability to present
Component Replacement Processes 1. Explain the correct functioning of equipment systems and their components. 2. Recognise wear, damage, and malfunctioning in automotive components.	Functioning of Automotive Systems and Components: • Overview of key systems (engine, transmission, brakes, suspension, steering, electrical, safety, tyres). • Understanding how key components interact within the system. Identifying Wear, Damage, and Malfunctions: • Common signs of wear and tear. • Basic techniques for identifying faults.	Video Tutorials: Visual demonstrations of component replacement processes. Hands-on Practice: Supervised practice sessions for removing and replacing components. Problem-solving Sessions: Analyse case	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
3. Explain the procedures and processes for removing and replacing various automotive components according to manufacturer specifications. 4. Remove and replace various automotive components according to manufacturer specifications	Step-by-step Procedures for Removing and Replacing Components: • Detailed procedures for common components (e.g., brake pads, filters, belts, tyres, batteries, fluid changes etc.). • Manufacturer-specific guidelines and best practices. • Safety considerations during removal and replacement.	studies to diagnose and solve component malfunctions. These could incorporate videos or VR/AR cases where available.	project outcomes and communicate effectively. • Integrated questioning to confirm the application of knowledge. Adjusting the project approach for learner cohorts with specific needs may be necessary. When this is required, ensure that the overall strategy is maintained.
Testing and Adjustments 1. Explain how to locate the specifications and testing requirements of automotive components, systems, or equipment. 2. Identify and access the required testing tools and procedures. 3. Explain the relevant test processes for the components and work tasks.	Specifications and Testing Requirements: • How to find and interpret specifications for various components. • Importance of adhering to manufacturer guidelines. Testing Tools and Procedures: • Types of testing tools (multimeters, pressure gauges, etc.). • Procedures for testing different components (e.g., electrical tests, pressure tests). Performing Tests and Making Adjustments: • Step-by-step instructions for common tests. • Interpreting test results and making necessary adjustments.	Discussion: Overview of specifications and testing requirements. Demonstration: Show the use of testing tools and procedures. Practical Exercises: Practice performing tests and adjustments on replaced components.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
Maintenance and Documentation 1. Describe the processes for cleaning a variety of tooling, equipment, and the work area. 2. Explain the processes for lubricating and maintaining tooling and equipment according to manufacturers' service information. 3. Explain the requirements for storing and disposing of tooling, equipment, and materials used for the work task. 4. Complete the required maintenance and workplace records for the task.	Cleaning and Maintenance Processes for Tools and Equipment: • Techniques for cleaning different types of tools and equipment. • Importance of regular maintenance. Lubrication and Storage Protocols: • Proper lubrication techniques and products. • Safe storage practices for tools and materials. Documentation and Record-Keeping Practices: • Importance of accurate documentation. • How to complete maintenance records and workplace documentation. • Digital vs. paper-based recordkeeping.	Discussion: Explain cleaning, maintenance, and documentation procedures. Interactive Workshop: Hands on practice with cleaning, lubricating, and storing tools and equipment. Documentation Exercise: Practice completing maintenance records and workplace documentation accurately	
Safety Procedures and Effective Communication 1. Demonstrate adherence to safety procedures and report potentially	Workplace Safety Procedures: • Overview of general safety protocols in an automotive workshop. • Specific safety measures for various tasks. Reporting Unsafe Conditions:	Lecture and Role-playing: Introduction to safety procedures and communication techniques.	

Learning Outcomes	Content Overview	Delivery Approaches	Assessment Strategy
unsafe conditions in the workplace. 2. Communicate effectively in one-on-one and small group situations, including with supervisors, other employees, or customers.	• How to identify and report hazards. • Importance of maintaining a safe work environment. Effective Communication Techniques: • Basics of effective communication. • Communicating with supervisors, colleagues, and customers. • Importance of clear and concise information exchange.	Group Discussion: Discuss scenarios of unsafe conditions and effective communication. Practical Exercises: Roleplay exercises for practising safety procedures and communication in a workshop setting.	

Supporting Resources

List resources if they are available.

The Use of Rubrics to Inform the Teaching and Learning Process.

During the Melbourne workshop, there was a discussion about wanting to ensure that the learners' knowledge and skills were increasing as the course progressed. One way to measure that and inform any strategies to support learner development is to have some form of rubric that can be used in formative assessments. There has been discussion about whether these rubrics would be at course or standard level. Practicality would suggest course level.

Development Rubric

Level	Indicators
Unsatisfactory	• Shows limited understanding of basic mechanical principles and simple machines. Struggles to recognise mechanical efficiency and common causes of inefficiency • Struggles to identify common mechanical components and systems. Inaccurate or incomplete descriptions and interpretations of technical drawings • Frequently makes errors in performing basic mechanical tasks and using tools. Requires constant supervision. Inaccurate or incomplete documentation • Limited understanding of safety procedures. Frequently makes errors in using PPE and reporting unsafe conditions
Progressing	• Demonstrates a basic understanding of mechanical principles and simple machines with some guidance. Begins to recognise mechanical efficiency and some causes of inefficiency. • Identifies some mechanical components and systems with guidance. Basic descriptions with some inaccuracies. Some errors in interpreting technical drawings • Performs basic mechanical tasks with some guidance and makes occasional errors. Basic use of tools with some safety concerns. Basic documentation with some errors • Demonstrates a basic understanding of safety procedures with some guidance. Occasional errors in using PPE and reporting unsafe conditions
Meeting Expectations	• **Understands and explains most mechanical principles and simple machines. Recognises most causes of mechanical inefficiency and can explain them with minor errors** • **Accurately identifies most mechanical components and systems. Provides clear and mostly accurate descriptions and interpretations of technical drawings**

Level	Indicators
	• **Accurately performs most mechanical tasks and uses tools correctly with minor errors that do not affect safety. Provides accurate documentation with minor errors** • **Accurately follows safety procedures and uses PPE correctly. Reports unsafe conditions appropriately**
Exceeding Expectations	• Demonstrates strong understanding and clear explanation of mechanical principles and simple machines. Accurately recognises and explains mechanical efficiency and common causes of inefficiency with minimal errors • Demonstrates a strong ability to identify mechanical components and systems. Provides accurate and detailed descriptions and interpretations of technical drawings with minimal errors. • Demonstrates strong ability in performing mechanical tasks and using tools safely and accurately. Provides detailed and accurate documentation with minimal errors • Demonstrates strong understanding and adherence to safety procedures. Uses PPE correctly and consistently. Accurately reports unsafe conditions with minimal errors

Mining and Automotive Skills Alliance

Support and Resources

Improving Creativity

Creativity has been identified by industry as an enduring skill that underpins all work in the automotive sector.

Creativity is the ability to generate new, original, and valuable ideas by thinking outside of conventional patterns. It involves seeing connections between seemingly unrelated concepts, approaching challenges in innovative ways, and producing novel solutions. Creativity isn't limited to artistic fields; it can be applied to any area of life, from problem-solving in engineering to developing new business strategies or scientific discoveries.

Key aspects of creativity include:

- Originality: Thinking in unique ways that deviate from the norm or traditional approaches.
- Imagination: Using mental imagery and ideas to explore possibilities that don’t yet exist.
- Flexibility: The capacity to consider different perspectives and adapt thinking to changing circumstances.
- Risk-taking: A willingness to experiment with new ideas and approaches, even if the outcome is uncertain.

Creativity thrives in environments that encourage curiosity, experimentation, and open-mindedness. It's often sparked by combining existing knowledge in new ways, collaboration with others, or exposure to diverse ideas and experiences

SCAMPER

SCAMPER is a great strategy to use when assessing an idea or new product. It's an acronym that stands for the following:

- **Substitute:** What can you trade from this idea for something else?
- **Combine:** What elements of this idea can you combine for efficiency?
- **Adapt:** How can you adapt this idea for a different market?
- **Modify:** What can you modify to improve functionality?
- **Put to another use:** What's another use for this idea?
- **Eliminate:** What is unnecessary?
- **Reverse:** What can you adjust to make this project better?

Use these steps and questions to see how you could improve your idea or project, particularly if you're looking for ways to develop it further

Example 1

The self-driving electric car

Substitute

- **Question:** What can you trade from this idea for something else?
- **Example:** Substitute the traditional battery with a solar-powered charging system. Instead of relying solely on charging stations, the car could generate energy directly from sunlight, making it more sustainable and independent of the electric grid.

Combine

- **Question:** What elements of this idea can you combine for efficiency?
- **Example:** Combine the self-driving technology with ride-sharing apps. The car could automatically join a ride-sharing fleet when not in use by the owner, maximising utility and reducing the need for multiple vehicles in urban areas.

Adapt

- **Question:** How can you adapt this idea for a different market?
- **Example:** Adapt the self-driving electric car for the elderly and disabled. Design the car's interface and accessibility features to cater specifically to people with mobility challenges, making it easier for them to maintain independence and mobility.

Modify

- **Question:** What can you modify to improve functionality?
- **Example:** Modify the car's interior to be modular. Seats, dashboards, and storage could be rearranged or swapped out depending on the user's needs, whether for a family road trip, a solo commute, or transporting goods.

Put to Another Use

- **Question:** What's another use for this idea?
- **Example:** Use the self-driving electric car as a mobile workspace. The car could be equipped with a fold-out desk, Wi-Fi, and other office essentials, allowing people to work comfortably while traveling or during traffic jams.

Eliminate

- **Question:** What is unnecessary?
- **Example:** Eliminate the steering wheel and manual controls in fully autonomous models. By removing these, the interior space could be used more efficiently, offering more comfort or additional features like entertainment systems or extra storage.

Reverse

- **Question:** What can you adjust to make this project better?

- **Example:** Reverse the energy flow. Instead of just consuming energy, the car could give back to the grid by supplying stored energy from its battery during peak demand times, effectively turning it into a mobile power bank

Example 2

Electric car with wireless charging capability

Substitute

- **Question:** What can you trade from this idea for something else?
- **Example:** Substitute the stationary wireless charging pad with mobile wireless charging lanes. Instead of only charging at designated stations, cars could charge while driving on specific lanes embedded with wireless charging technology, reducing downtime and making long road trips more efficient.

Combine

- **Question:** What elements of this idea can you combine for efficiency?
- **Example:** Combine the wireless charging capability with a solar panel roof. While the car is wirelessly charging, the solar panels could also generate additional electricity, further extending the vehicle's range without needing to stop for a conventional charge.

Adapt

- **Question:** How can you adapt this idea for a different market?
- **Example:** Adapt the wireless charging system for public transportation, such as electric buses or trams. These vehicles could charge wirelessly at designated stops or while waiting for passengers to board, ensuring they never run out of power during long routes.

Modify

- **Question:** What can you modify to improve functionality?
- **Example:** Modify the wireless charging pads to be modular and portable. This would allow users to carry a compact wireless charger that they could place under the car wherever they park, without the need for permanent installations.

Put to Another Use

- **Question:** What's another use for this idea?
- **Example:** Use the wireless charging system to power other devices in or around the car, such as wireless phone chargers, small appliances, or even charging e-bikes or scooters parked near the car. The car’s battery could serve as a mobile energy hub.

Eliminate

- **Question:** What is unnecessary?

- **Example:** Eliminate the need for precise parking over a charging pad by incorporating automatic alignment technology. The car could adjust its position automatically over the wireless charging pad for optimal charging efficiency, reducing driver effort and ensuring proper connection.

Reverse

- **Question:** What can you adjust to make this project better?
- **Example:** Reverse the process so that the car can not only receive energy but also provide energy to the grid. During off-peak times or when parked at home, the car could send unused energy back to the power grid, helping with energy distribution and potentially saving the owner money on their energy bill.

Improving Writing Skills

Writing skills in the workplace are the ability to effectively communicate ideas, instructions, and information in a professional setting through written language. Strong writing skills are essential for clear, concise, and persuasive communication, whether through emails, reports, proposals, or other business documents.

Key aspects of workplace writing skills include:

- **Clarity**: Presenting information in a straightforward and unambiguous way, ensuring the message is easily understood by colleagues, clients, or stakeholders.
- **Professional Tone**: Maintaining a formal, respectful, and appropriate tone that aligns with workplace norms while adapting style to different audiences (e.g., clients, managers, or team members).
- **Brevity**: Writing concisely, focusing on the key points and avoiding unnecessary details to respect the reader's time and maintain focus on the objective.
- **Accuracy**: Ensuring that facts, data, and figures are correct, and that grammar, punctuation, and spelling are flawless to maintain professionalism.
- **Structure**: Organising content logically, with clear headings, sections, and bullet points where necessary to make the text easy to navigate and understand.

Effective workplace writing improves communication, enhances productivity, and ensures that messages are conveyed efficiently. It also reflects professionalism and can influence how colleagues, clients, or partners perceive the individual and the organisation.

Humorous how-to's.

Objective:

Students will write a "how-to" instructional piece on a fun or humorous topic. They will practice writing conventions such as clear steps, sequence words, time connectives, and supporting details.

Steps:

Introduce the Activity: Explain that the goal is to practice writing instructions, but instead of a typical "how-to," they'll be tackling humorous or quirky topics for practice.

Brainstorm Fun Topics

As a class or in groups, brainstorm a range of light-hearted topics. These examples could prompt the group's thinking.

- How to Jump-Start a Car Without Looking Like a Novice

  A guide to connecting jumper cables and reviving a dead battery, while avoiding awkward mishaps like sparking the wrong terminal.

- How to Parallel Park Like a Pro (Even If You're Not One)

  A humorous step-by-step on the art of parallel parking, complete with the inevitable three-point-turn adjustments.

- How to Talk to Your Car When It Won't Start

  A light-hearted take on the emotional rollercoaster of trying to start a stubborn engine and how sweet-talking your vehicle might (not) help.

- How to Navigate a Car Dealership Like a Ninja

  A playful guide on working with salespeople and scoring the best deal without feeling like you've been tricked.

- How to Survive a Road Trip in a Car with No Air Conditioning

  A comical take on staying cool and sane during a long drive in a heatwave, complete with strategies for optimal window management.

- How to Fix a Flat Tire Without Crying

  A guide to tyre changes with a touch of humour, focused on how to stay calm and confident when facing a flat tyre, even when it seems like the world is against you.

Model the Process

Show an example of a humorous how-to, highlighting the use of numbered steps, time connectives (first, next, then, finally), and sequence words (before, after, during).

How to Change a Car Tyre (Like a Pro… or Close Enough)

1. **First**, **Park Safely.** Before you become a tire-changing hero, make sure to park your car on level ground and engage the parking brake. Safety first! You don't want your car rolling away like it's auditioning for a stunt movie
2. **Next**, **Gather Your Tools**. Open the trunk (or wherever your tools are hiding) and grab the essentials: a jack, a wheel wrench, and the spare tyre. Don't be surprised if the tools seem to have moved to the most inconvenient spot possible. It's a mechanic's law.
3. **Then**, **Loosen the Lug Nuts**. Using the wheel wrench, loosen the nuts on the flat tyre **before** you lift the car. Turn them counterclockwise—lefty loosey! (Yes, it still works in automotive.) They might be stubborn, so feel free to let out a well-placed sigh of frustration. That's what the pros do.
4. **After that**, **Jack Up the Car.** Position the jack under the car's lifting point (check the manual if it's playing hide and seek). Slowly crank the jack until the flat tyre is a few inches off the ground. Avoid raising it to the stratosphere—no need to be an overachiever here.
5. **Now**, **Remove the Flat Tyre**. Carefully remove the wheel nuts and set them aside. (Pro tip: don't let them roll under the car. Finding them later could turn into a treasure hunt.) Slide the flat tyre off the hub and roll it away like it's a retired stunt performer.

6. **Next**, **Install the Spare.** Align the spare tyre with the wheel bolts and slide it onto the hub. You might have to give it a nudge, but remember—gently! The tyre may not appreciate brute force, even if it deserves it.
7. **Then**, **Tighten the Wheel Nuts.** Hand-tighten the wheel nuts in a star pattern. Don't just tighten them randomly, or you'll risk unbalancing the wheel. Once they're snug, use the wrench to tighten them further, but don't overdo it. Think "firm handshake," not "Hercules-level strength.".
8. **After that**, **Lower the Car.** Carefully lower the car back down to the ground using the jack. Once the car is resting on its wheels, give the wheel nuts one last good tightening. Now your spare is secure, and your car is no longer stranded!
9. **Finally**, **Clean Up.** Pack up your tools and stow the flat tyre safely in the boot. You've done it! Time to give yourself a well-deserved pat on the back (just don't do it while driving).

.

Student Writing

Ask students to pick one of the fun topics or come up with their own and write their humorous how-to using clear steps. Remind them to:

Number the steps.

Use time connectives (e.g., first, next, finally).

Add supporting details or funny explanations.

Share & Reflect:

Once students have completed their how-to, invite them to share their writing with the class. Discuss the effectiveness of the instructions, and have fun appreciating the humour!

Mining and Automotive Skills Alliance

Part 2 - Companion Volume

Overview Information – Training Package Structure

- Version control and modification history.
- List of AQF qualifications, skill sets and units of competency in the Training Package
- Unit mapping information, including an equivalence table linking old to new units of competency.
- Qualification mapping information, including an equivalence table linking old to new qualification
- List of imported and pre-requisite units in the Training Package.
- Key work and training requirements in the industry.
- Regulation and licensing implications for implementation.
- Where units that form part of skill sets include pre-requisite units, list these pre-requisite units.

Mining and Automotive Skills Alliance

The Mining and Automotive Skills Alliance (AUSMASA)
is a Jobs and Skills Council funded by the
Australian Government Department of Employment and Workplace Relations.