PART A – SkillsPoint Product Information

Master Product Information

**RTO Code:** **90003**

**Training Product Code:** **AUM30218**

**Release no.** **1**

**Training Product Name:** **Certificate III in Automotive Manufacturing Technical Operations - Bus, Truck and Trailer**

**Status of Training Product:** Current

**Release Date:** **12/12/2018**

**Category of Product:**  Nationally Recognised Qualification

Accredited Course

Skill Set

Statement of Attainment

Non Nationally Recognised

**SkillsPoint Details**

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**SkillsPoint Project Identifier: MRS\_19\_11\_AUM30218**

Master Delivery Information

**Specialist Stream or Industry Identified Stream contained in this TAS:**

**South Region**

**Target Student Group Category:**  Pre-employment

Apprentices/Trainees

International Students

Existing Workers

Other (Please specify):

**Mode(s) of Delivery:**  Face to Face Learning

Workplace Training

Online Learning

Blended

Other:

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1. Training Product Overview

### 1.1 Training Product Requirements

**Link to Training Product on**[TGA](http://www.training.gov.au/)**:** **<https://training.gov.au/Training/Details/AUM30218>**

**Number of Core Units:** **11**

**Number of Elective Units: 17**

**Total Number of Units: 28**

**Packaging Rules:**

To achieve this qualification, competency must be demonstrated in:

28 units of competency:

* 11 core units, plus
* 17 elective units.

Elective units must ensure the integrity of the qualification’s Australian Qualification Framework (AQF) alignment and contribute to a valid, industry-supported vocational outcome, without duplicating the outcome of another unit chosen for this qualification.

The electives are to be chosen as follows:

* up to 17 elective units may be chosen from the elective units listed below
* up to 5 elective units may be chosen from a Certificate II qualification or above in this Training Package or another endorsed Training Package or accredited course.

### 1.2 Licensing and/or Regulatory Requirements

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

### 1.3 Qualification Description

This qualification reflects the role of individuals in the production of bus, truck and trailer and components manufacture. The qualification is suitable for entry into the automotive manufacturing industry.

### 1.4 Pathways

**Study Pathways**

The study pathways available to students who undertake this Specialist Stream or Industry Identified Stream include:

AUM40113 Certificate IV in Automotive Manufacturing

AUM50113 Diploma of Automotive Manufacturing

**Employment Pathways**

The employment pathways available to students who complete this Specialist Stream or Industry Identified Stream include:

The following employment pathways are available to learners who complete this qualification:

Sub Assembly Technician

Automotive Manufacturing Technician

Coach Builder Technician

Vehicle Body Builder

### 1.5 Entry Requirements

The following **Training Package** entry requirements exist for this course:

Students are required to have a training contract completed through their local Australian Apprenticeship Support Network (AASN) as an apprentice into the training product contained in this MCTAS document in order to enrol.

All students will undertake an LLN assessment prior to enrolment and are expected to have an LLN level at ACSF level 2 when commencing this course.

### 1.6 Exit Points

A Statement of Attainment will be issued for any unit of competency successfully completed if the full qualification is not completed.

### 1.7 Units of Competency

Consistent with the qualification packaging rules, the units listed below will be delivered and assessed for this training product:

#### Core Units

Table 1 Core Units

| **No.** | **Unit Code and Unit Title** | **Unit Type and Additional Notes** |
| --- | --- | --- |
| **1** | AUMATK002 – Prepare and operate tools, equipment and machinery |  |
| **2** | AUMATK013 – Monitor and maintain automotive equipment |  |
| **3** | AUMGLM011 – Apply heavy vehicle standards |  |
| **4** | AUMGQA001 – Apply workplace technical quality standards |  |
| **5** | AUMGTA011 – Read and interpret work orders and working drawings |  |
| **6** | AUMGTM005 – Read and interpret engineering drawings and determine requirements |  |
| **7** | AUMGTW001 – Perform basic welding, thermal cutting, heating and gouging |  |
| **8** | AUMGTW002 – Conduct mechanical cutting |  |
| **9** | AURAFA003 – Communicate effectively in an automotive workplace |  |
| **10** | AURAMA001 – Work effectively with others in an automotive workplace |  |
| **11** | AURASA002 – Follow safe working practices in an automotive workplace |  |

#### Elective Units

Table 2 Elective Units

| **No.** | **Unit Code and Unit Title** | **Unit Type and Additional Notes** | **Packaging Rules**  *(Grouping, Hours and Points, where applicable)* |
| --- | --- | --- | --- |
| **1** | AUMGTM001 – Assemble vehicle components |  | Listed elective |
| **2** | AUMGTM002 – Assemble vehicle frames and axles |  | Listed elective |
| **3** | AUMGTM004 – Install and fit out components |  | Listed elective |
| **4** | AUMGTM006 – Assemble, install and test hydraulic system kits |  | Listed elective |
| **5** | AUMGTM007 – Assemble, install and test pneumatic system kits |  | Listed elective |
| **6** | AUMGTN001 – Replace and repair vehicle body panels and fittings |  | Listed elective |
| **7** | AUMGTR003 – Test, modify and repair vehicle electrical circuits and systems |  | Listed elective |
| **8** | AUMGTS001 – Prepare materials for fabrication using jigs and fixtures |  | Listed elective |
| **9** | AUMGTS002 – Prepare materials for fabrication using manual processes |  | Listed elective |
| **10** | AUMGTS004 – Fabricate parts for vehicle sub-assemblies |  | Listed elective |
| **11** | AUMGTW004 – Perform gas tungsten arc welding |  | Listed elective |
| **12** | AUMGTW005 – Perform gas metal arc welding |  | Listed elective |
| **13** | AUMGTY001 – Paint vehicle chassis and panels |  | Listed elective |
| **14** | AUMGTY002 – Install vehicle components |  | Listed elective |
| **15** | AUMGTY003 – Modify and repair chassis and frames |  | Listed elective |
| **16** | AURHTB001 – Diagnose and repair heavy vehicle air braking systems |  | Listed elective |
| **17** | AURHTD003 – Diagnose and repair heavy commercial vehicle suspension systems |  | Listed elective |

### 1.8 Imported Units

Details of electives imported from another Training Package or accredited course.

Table 4 Imported Electives

| **No.** | **Unit Code** a**nd Unit Title** | **Release version #** | **Status** | **Release Date** | **SkillsPoint** |
| --- | --- | --- | --- | --- | --- |
| **1** | N/A |  |  |  |  |

2. Additional Information

### 2.1 Environment and Location

The **simulated** work environment will be achieved by:

Students will demonstrate skills and performance evidence in a simulated environment at a TAFE campus that reflects industry standards and activities. The simulated work environment will provide students with access to industry standard machinery, tools, equipment and associated machinery to gain a real-world experience that aligns with their job role. This includes workshops and learning environments equipped with industry standard machinery, associated tools and equipment as listed in section 2.6, along with access to relevant SOPs and WHS policies and requirements.

The simulated environment will provide the required amount of tools and equipment to meet the needs of all students.

**Work placement** will be achieved by:

**Detail: NA**

**Eligibility for work placement:**

**Total Work Placement Hours:**

### 2.2 Language, Literacy and Numeracy

Based on the Australian Core Skills Framework ([ACSF](https://www.education.gov.au/download-acsf)), please indicate which performance levels students are expected to be at the commencement of the course for each of the core skills listed in the table below.

For assistance in determining the LLN level of performance please consult with your relevant Learning Support Services.

Table 4 Language, Literacy and Numeracy

| **Level of Performance** | **PL1A&B** | **1** | **2** | **3** | **4** | **5** |
| --- | --- | --- | --- | --- | --- | --- |
| **Learning** |  |  |  |  |  |  |
| **Reading** |  |  |  |  |  |  |
| **Writing** |  |  |  |  |  |  |
| **Numeracy** |  |  |  |  |  |  |
| **Oral communication** |  |  |  |  |  |  |

### 2.3 Recognition Processes

#### Recognition of Prior Learning

Students are able to have their competency from prior learning and work experience recognised in this qualification through the following arrangements.

* Evidence of completing formal training
* Work experience: on the job experience and informal training
* Life experience: community group involvement, family activities, sports, hobbies, leisure activities, unpaid work, organising events, and/or travel.

Applications for RPL will be assessed on an individual basis and may be granted when a portfolio of evidence is assessed in accordance with TAFE NSW Recognition Policy and Procedures and the student is deemed competent for the unit/s of competency for which the application applies. Alternatively, the student may nominate to undertake a challenge assessment for the opportunity to demonstrate competency.

**Credit Transfer**

Students may also apply for credit transfer upon enrolment. The same or equivalent units of competency previously completed through an Australian RTO may be credited towards the new qualification they enrol into.

### 2.4 Educational and Support Services

TAFE NSW provides the following services to ensure a supported and successful learning environment for all students:

* Aboriginal and/or Torres Strait Islander Student Support and Services
* Accessibility and Disability Services
* Personal Counselling
* Vocational Counselling
* Learning Support
* International Student Support
* Scholarships
* Multicultural Support

Detailed current information on these Support Services are made available to staff and students at [TAFE NSW Student Services](http://www.tafensw.edu.au/support). Additionally every student is supported by a dedicated Student Services team at each campus location.

### 2.5 WHS Risk Ranking

Consult the WHS risk register for this course

This Training Product has the following WHS risk ranking High risk

Refer to the TAFE NSW Enterprise [Risk Management Policy](https://staff.tafensw.edu.au/documents/2017/11/enterprise-risk-management-policy.pdf/) for more details

### 2.6 Physical and Learning Resources

Specifically, the physical and learning resources listed below are required for the delivery and assessment of this Specialist Stream or Industry Identified Stream for this training product:

Table 5 Physical and Learning Resources

| Type | Resource Requirements |
| --- | --- |
| Facilities | TAFE NSW will provide the following facilities, including:   * classrooms with computers, * internet access * white/chalk board * Automotive workshop for the delivery of practical activities and assessments, complete with all tools, materials and machinery as listed below in equipment list.   TAFE Campus Library facilities including: computing lab equipped with relevant software for provision of online learning access. |
| Equipment | **AUMATK002** Procedures and safety requirements relating to the use of the tools, equipment and machinery. Automotive tools, equipment and machinery, including: assembly equipment, fastening equipment, hand tools, power tools.  **AUMATK013** Procedures and safety requirements relating to monitoring and maintaining tools, equipment and machinery. Tools. Equipment and machinery required for the production process of motor vehicles or components, including: hand, power and air tools and production assembly equipment.  **AUMGLM011** Access to: ADR relevant to heavy vehicle modifications, HVNL regulations, in states/territories where applicable, OEM guides and manuals, VSB6 National Code of Practice - Heavy Vehicle Modifications. Documentation relevant to applying heavy vehicle standards to heavy vehicles and recording results.  Automotive manufacturing workplace or simulated workplace with two different heavy vehicles, tools and equipment for checking heavy vehicles against standards. Relevant heavy vehicle engineering and working drawings.  **AUMGQA001** Procedures for inspecting work against quality goals, including: procedures and documentation required for quality inspection process, identification and elimination of defects, attention to job specifications and tolerances and efficient production times.  Appropriate workplace or simulated workplace with finished manufactured components requiring quality inspection along with tools, equipment and machinery required for quality inspection process.  **AUMGTA011** Appropriate workplace or simulated workplace, work orders, working drawings and specifications including access to original equipment manufacturer (OEM) procedures along with appropriate tools, equipment and materials required in the drawing process, workplace procedures required to read and interpret work orders and working drawings, work instructions to read and interpret work orders and working drawings.  **AUMGTM005** Appropriate workplace or simulated workplace and appropriate engineering drawings and job specifications. Tools and equipment and material necessary to produce production work orders.  **AUMGTW001** Appropriate workplace or simulated workplace with vehicles or components that require basic welding, thermal cutting, heating and gouging operations. WHS equipment, including PPE relating to basic welding, thermal cutting, heating and gouging along with workplace procedures, equipment and operating instructions relating to basic welding, thermal cutting, heating and gouging. Welding consumables and materials equipment and accompanying operating instructions, including:  Gas metal arc welding (GMAW) equipment, manual metal arc welding (MMAW) equipment, oxy-acetylene plant and equipment and thermal cutting, heating and gouging equipment and work sheets relating to basic welding, thermal cutting, heating and gouging operations.  **AUMGTW002** Appropriate workplace or simulated workplace with WHS equipment and personal protective equipment (PPE) required for mechanical cutting operations. Mechanical cutting equipment and material for cutting. Marking and measuring equipment relevant to performing mechanical cutting along with working drawings and cutting specifications and work sheets relating to performing mechanical cutting operations.  **AURAFA003** Automotive workplace or simulated workplace, supervisor, colleagues and customers with whom to communicate in verbal and written exchanges, workplace communication devices, including a telephone system and computer.  **AURAMA001** Appropriate automotive repair workplace or simulated workplace with commercially realistic range of diverse workplace colleagues. Documentation, including workplace policies and procedures manuals relating to ethics, employee and employer rights and responsibilities, attire and grooming, job descriptions and organisational charts.  **AURASA002** Appropriate automotive repair workplace or simulated workplace procedures and instructions relating to safe work practices, workplace safety and emergency evacuation procedures, hazardous chemicals and dangerous goods information, safety materials and equipment relevant to an automotive workplace, fire safety equipment along with documents for recording workplace safety, accidents and incidents.  **AURHTB001** Appropriate automotive repair workplace or simulated workplace with workplace instructions for manufacturer braking system specifications along with two different heavy vehicles with faults in the air braking systems specified in the performance evidence and diagnostic equipment for heavy vehicle air braking systems. Access to Australian Design Rules ADR35 and ADR38. Tools, equipment and materials appropriate for repairing and adjusting heavy vehicle air braking systems.  **AUMGTM001** Appropriate automotive repair workplace or simulated workplace along with workplace procedures relating to component assembly, tools and equipment required for the assembly of components. Parts, fasteners, adhesives and assembly components, vehicle or simulated frame requiring assembly of components along with assembly work sheets and job specifications.  **AUMGTM002** Appropriate automotive repair workplace or simulated workplace along with tools and equipment required for the assembly of vehicle frames and axles. Workplace instructions, procedures and job specifications relating to assembling frames and axles. materials, axles, suspension systems, service lines and components to produce an assembled frame and axles  Vehicle or simulated frame. Assembly work sheets and job specifications.  **AUMGTM004** Appropriate automotive repair workplace or simulated workplace with components requiring installation and fit out to vehicles and appropriate installation and fit out tools and equipment. Parts, fasteners and adhesives suitable to the components to be installed and fitted out. Vehicles or simulated frames along with workplace procedures, instructions and specifications relating to the components to be installed and fitted out.  **AUMGTM006** Appropriate automotive repair workplace or simulated workplace with hydraulic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a hydraulic system kit. Tools and equipment required to install and test hydraulic system kits and work sheets for assembling, installing and testing hydraulic system kits.  **AUMGTM007** Appropriate automotive repair workplace or simulated workplace with pneumatic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a pneumatic system kit. Tools and equipment required to install and test pneumatic system kits with work sheets for assembling, installing and testing pneumatic system kits.  **AURHTD003** Appropriate automotive repair workplace or simulated workplace with workplace instructions for manufacturer suspension system specifications. Heavy commercial vehicles with faults in the different suspension systems listed in the performance evidence and diagnostic equipment for heavy commercial vehicle suspension systems. Tools, equipment and materials appropriate for repairing and adjusting heavy commercial vehicle suspension systems.  **AUMGTN001** Appropriate automotive repair workplace or simulated workplace along with workplace procedures relating to component assembly, tools and equipment required for the assembly of components. Parts, fasteners, adhesives and assembly components, vehicle or simulated frame requiring assembly of components along with assembly work sheets and job specifications.  **AUMGTR003** Appropriate automotive repair workplace or simulated workplace along with tools and equipment required for the assembly of vehicle frames and axles. Workplace instructions, procedures and job specifications relating to assembling frames and axles. materials, axles, suspension systems, service lines and components to produce an assembled frame and axles  Vehicle or simulated frame. Assembly work sheets and job specifications.  **AUMGTS001** Appropriate automotive repair workplace or simulated workplace with components requiring installation and fit out to vehicles and appropriate installation and fit out tools and equipment. Parts, fasteners and adhesives suitable to the components to be installed and fitted out. Vehicles or simulated frames along with workplace procedures, instructions and specifications relating to the components to be installed and fitted out.  **AUMGTS002** Appropriate automotive repair workplace or simulated workplace with hydraulic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a hydraulic system kit. Tools and equipment required to install and test hydraulic system kits and work sheets for assembling, installing and testing hydraulic system kits.  **AUMGTS004** Appropriate automotive repair workplace or simulated workplace with pneumatic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a pneumatic system kit. Tools and equipment required to install and test pneumatic system kits with work sheets for assembling, installing and testing pneumatic system kits.  **AUMGTW004** Appropriate automotive repair workplace or simulated workplace along with workplace procedures relating to component assembly, tools and equipment required for the assembly of components. Parts, fasteners, adhesives and assembly components, vehicle or simulated frame requiring assembly of components along with assembly work sheets and job specifications.  **AUMGTW005** Appropriate automotive repair workplace or simulated workplace along with tools and equipment required for the assembly of vehicle frames and axles. Workplace instructions, procedures and job specifications relating to assembling frames and axles. materials, axles, suspension systems, service lines and components to produce an assembled frame and axles  Vehicle or simulated frame. Assembly work sheets and job specifications.  **AUMGTY001** Appropriate automotive repair workplace or simulated workplace with components requiring installation and fit out to vehicles and appropriate installation and fit out tools and equipment. Parts, fasteners and adhesives suitable to the components to be installed and fitted out. Vehicles or simulated frames along with workplace procedures, instructions and specifications relating to the components to be installed and fitted out.  **AUMGTY002** Appropriate automotive repair workplace or simulated workplace with hydraulic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a hydraulic system kit. Tools and equipment required to install and test hydraulic system kits and work sheets for assembling, installing and testing hydraulic system kits.  **AUMGTY003** Appropriate automotive repair workplace or simulated workplace with pneumatic system kits, manufacturer specifications and fitting instructions and vehicle or simulated frame that requires fitting of a pneumatic system kit. Tools and equipment required to install and test pneumatic system kits with work sheets for assembling, installing and testing pneumatic system kits. |
| Trainer and Assessor Qualifications and Industry Experience | Minimum qualification of Certificate III in Automotive Manufacturing Technical Operations - Bus, Truck and Trailer or equivalent.  As of 30 June 2019, trainers and assessors must hold:   * TAE40116 Certificate IV in Training and Assessment or its successor **or** * TAE40110 Certificate IV in Training and Assessment plus the following units:   + TAELLN411 (or its successor) or TAELLN401A, and   + TAEASS502 (or its successor) or TAEASS502A or TAEASS502B **or** * A diploma or higher level qualification in adult education.   Training and assessment is delivered only by persons who have:  a) Vocational competencies at least to the level being delivered and assessed  b) Current industry skills directly relevant to the training and assessment being provided  c) Current knowledge and skills in vocational training and learning that informs their training and assessment. |
| Learning Resources | Each unit to have a set of comprehensive unit notes, class activities, practical task with relevant drawings and instructions, teaching and learning resources, assessments and RPL documents which will be available on the Learning Bank. Supporting resources such as policies, procedures, work orders will be available on the Learning Bank and through the simulated workshop.   * Learner resources will be provided to students by teacher / trainer. * Specific Australian standards, codes of Practice, regulations that need to be utilised will be given to students via the trainer and/or assessor.   Access to library services including books, industry journals and magazines, on-line data bases and legislation documents specific to trade profile. Access to trade relevant multimedia learning materials. |

### 2.7 Industry Engagement

Training and assessment practices must be relevant to the needs of industry and informed by industry engagement, this may also influence resources and staff currency. Details below are of the most current engagement activities undertaken for this training product.

Table 6 SkillsPoint Engagement

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Industry/Organisation | Representative Name | Contact Details  (Email/Telephone) | Date of Consultation | How did this engagement influence one or more of the following?   * Qualification/ Course / Skill set selection * Elective selection and/or sequencing * Mode of study * Training Methods * Assessment Methods * Trainer and assessor requirements * Training and assessment resources and equipment * Contextualisation |
| **1** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  22/02/2019  22/02/2019  15/05/2019  19/03/2019 | **Qualification selection**  Feedback was gathered from a broad cross sector of automotive manufacturing stakeholders, there was coverage of the following sectors; manufacturing, modification, servicing and repair. There were both large and small businesses, some covered buses, trucks and trailers, while others specialised in one of the three areas. Two group training organisations were also consulted. Stakeholders were spread across the state and primarily focalised in regional areas with representation from as far up as Coffs Harbour and as far south as Wagga Wagga.  Various sources were used to gain feedback on the skills and knowledge required by the Automotive manufacturing industry. Specific needs were identified by stakeholders through surveys, written responses, verbal feedback, and regional forum and described in current job advertisements.  **Feedback**  The AUM30218 Certificate III in Automotive manufacturing technical operations – bus, truck and trailer qualification was identified by all stakeholders as required to work on vehicle bodies and trailers. According to https://www.service.nsw.gov.au/transaction/apply-motor-vehicle-repairer-licence to gain a MVRIC (Motor vehicle repairers’ licence) a tradesperson in the business must also have a tradesperson certificate for the relevant classes of work. One stakeholder explained that 4yrs ago Fair-trading NSW introduced the requirement to hold an AUM qualification to gain a body builders class licence.  Despite sector diversity, there was agreement that the qualification needs to be reviewed to ensure that there is sufficient technical strength in graduates, the main areas of concern were around the depth and breadth of the skills and knowledge in core units and that too many of the core units were ‘putting the guy on the floor in the office.’  The offending units are as follows.   * AUMGTM005 - Read and interpret engineering drawings and determine requirements * AURAFA003 - Communicate effectively in an automotive workplace * AURAMA001 - Work effectively with others in an automotive workplace * AUMGLM011 - Apply heavy vehicle standards * AUMGQA001 - Apply workplace technical quality standards   Despite the disappointment that these units were diluting what they would prefer to be a more technical, hands on qualification, there was still strong feelings from most stakeholders that elements of these units are still required. For example:   * A manufacturer of new coaches explained that the although apprentices need to know how to locate and access standards such as the Australian Design Rules (ADRs), National Heavy Vehicle Standards (NHVS) as well as state based requirements, they do not expected that the full breadth and depth of these standards would be covered. They also explained that the apprentices ‘need to know that when someone designed and tested the product, they ensured that it met the standards so if you change the design you may have made the product illegal, non-compliant and/or unsafe.’ * Several stakeholders emphasised the need to test/assess the quality of products as the work progresses, one noting that they ‘should be inspecting as they go, if they did a wire joint wrong and then tape/insulate – the quality of the joint would not show until failure.’   Another area of difference was between regions. Stakeholders in the North region tended to have cross sector applications, i.e bus, truck and trailer or specialise in areas such as coach building, which require skills and knowledge in fibre glassing and glass installation. In contrast stakeholders in the south who tended towards large scale custom trailer fabrication with the need for skills and knowledge in heavy vehicle braking and suspension systems.  There was also interest in the following qualifications as possible pathways to and from the certificate III qualification.   * AUM20218 Certificate II in Automotive Manufacturing Production – Bus, Truck & Trailer * MEM30205 Certificate III in Engineering - Mechanical Trade * MEM30305 Certificate III in Engineering - Fabrication Trade   **Action**  Stakeholder feedback indicated AUM30218 Certificate III in Automotive manufacturing technical operations – bus, truck and trailer was a state based legislative requirement for their workers. Concerns around the dilution of technical skills were raised with the Skills Service Organisation (PWC Skills for Australia) through a discussion with a national industry stakeholder, facilitated by TAFE NSW.  To meet the needs of the differentiated regional sectors TAFE NSW has packaged two industry focused qualifications in the areas that differ only slightly in the areas of concern (fibre glassing and glass installations V’s heavy vehicle braking and suspension systems).  TAFE NSW to include the above qualifications as possible pathways in the Certificate III AUM qualification. |
| **2** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  22/02/2019  22/02/2019  15/05/2019  19/03/2019 | **Elective selection**  Feedback gathered from a broad range of laboratory operations stakeholders was used to identify electives that had cross sector applications. Sector coverage included; bus, truck and trailer automotive manufacturing stakeholders manufacturing, modification, servicing and repair.  **Feedback**  There was unanimous support across all sectors and regions for the following units of competency as the skills described were considered common across the sector. Specific comments on content have been included under contextualisation.   * AUMGTS001 Prepare materials for fabrication using jigs and fixtures – ‘we use these’ and ‘do need to do basic skill’ * AUMGTM001 Assemble vehicle components – ‘Getting a work order and following instructions on how to put together.’ * AUMGTY002 Install vehicle components – ‘Critical - everyday – need to know where to research where to attach the components to the frame.’ * AUMGTM004 Install and fit out components – ‘critical’ and ‘Very pertinent – they use these skills daily, even every minute’ * AUMGTS002 Prepare materials for fabrication using manual processes – ‘all good’ * AUMGTS004 Fabricate parts for vehicle sub-assemblies – ‘Critical – if you get it wrong e.g. Too ridged you will break the chassis.’ * AUMGTW005 Perform gas metal arc welding – ‘Ideally to include in AUM specific unit (on GMAW) as different rules apply to transport that boiler maker may not be aware of.’ * AUMGTW004 Perform gas tungsten arc welding – ‘Prefer a heavier more boiler making style of unit – to cover heavy gauge welding. A lot more stresses and strains.’ * AUMGTN001 Replace and repair vehicle body panels and fittings – ‘critical’ and ‘has some relevance’ * AUMGTM002 Assemble vehicle frames and axles – ‘should be core’ * AUMGTY003 Modify and repair chassis and frames – ‘Critical – Everyday’ and ‘This would be important to the truck modifying company up the road. Would be better if this was around space framing a new bus.’ * AUMGTM006 Assemble, install and test hydraulic system kits – ‘Good to have for cross sector.’ * AUMGTM007 Assemble, install and test pneumatic system kits - ‘Critical must have – majority of larger tippers have air operated tail gates.’   There were concerns around the inclusion of the following units by a national coach manufacturer that felt the breadth and depth of the skills and knowledge were too wide and deep for their apprentices. This was contested by other stakeholders that felt replacing the units with lower level units would compromise the level of the qualification and the employability of apprentices. It is important to note that this employer utilises the AUM certificate II pathway and would prefer credit transfer for the lower level units.   * AUMGTR003 - Test, modify and repair vehicle electrical circuits and systems – ‘Electrical and electronic systems is too large a subject for one unit - not sure what is hoped to be achieved. AUR30316 Certificate III in Automotive Electrical Technology covers the subject’ * AUMGTY001 - Paint vehicle chassis and panels – ‘They don’t spray as such, this unit is too in-depth.’ ‘Could the following unit be included instead as the level and complexity is more appropriate AUMGTP001 - Finish and paint vehicle body and part surfaces.’ Vs ‘Must have basic skills – critical for employment transfer between businesses. I would not employ a trade qualified person if they do not have this unit. In my eyes they are not trade qualified.’   The following units were identified as required for north region stakeholders and not required by south region stakeholders.   * AUMGTG001 - Install fixed and moveable glass components on vehicles – ‘Buses have a lot of windows; it is a requirement.’ * AUMGTM008 - Bond and repair fibreglass components – Case example provided - ‘Refrigerated truck – to get to the steel base frame had to cut through the floor as one big sheet and fibreglass it back in. Refit airflow floor back in and seal screw holes correctly so it doesn’t suck water (to prevent fibre acting as a wick – ruin the floor.)   The following units were identified as required by a forum of south region stakeholders and not required by north region stakeholders.   * AURHTB001 - Diagnose and repair heavy vehicle air braking systems * AURHTD003 - Diagnose and repair heavy commercial vehicle suspension systems   **Action**   * The following units have been included in all industry focused Certificate III qualifications as they have cross sector utility and will increase the employment mobility of bus manufacturing staff to maximise options in the event of loss of employment. * The lower level AUM units mentioned, and MEM welding units may be imported to replace the higher-level or comparable units where an AUM certificate II or an MEM qualification was used as a pathway into the AUM certificate III. * AUMGTG001 - Install fixed and moveable glass components on vehicles and AUMGTM008 - Bond and repair fibreglass components were only included in the industry focused stream 1 as north region industry stakeholders required additional fibre glassing and glass installation specific units that provide greater relevance to their job roles. * AURHTB001 - Diagnose and repair heavy vehicle air braking systems and AURHTD003 - Diagnose and repair heavy commercial vehicle suspension systems were only included in the industry focused stream 2 as south region industry stakeholders required additional heavy vehicle specific units that provide greater relevance to their job roles.   TAFE NSW to ensure credit transfer for MEM welding units where appropriate. |
| **3** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_03  MRS\_19\_11\_AUM30218\_IER\_04  MRS\_19\_11\_AUM30218\_IER\_05  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  22/02/2019  22/02/2019  15/05/2019  19/03/2019 | **Mode of study**  Feedback was gathered from a broad range of stakeholders from the bus, truck and trailer automotive manufacturing industry. Stakeholders varied in the application of this qualification with some specialising in new vehicle manufacture or modification whilst others focused on servicing and repair. Local and national employers as well as group training organisations were consulted.  **Feedback**  The preference for the mode of study to include face to face training was unanimous. In addition, the majority of stakeholders felt that face to face at a TAFE NSW campus or in the workplace combined with online learning would be the best option.  One employer asserted being against online in terms of accessing materials as they felt apprentices would not do the work and time would be lost trying to navigate an online platform. However, in the same meeting the apprentices contradicted the employer’s comments when requested to provide input into the survey by indicating they would benefit from the inclusion of videos and online quizzes into the course. In contrast, another national stakeholder from the same region commented on the benefits of online including the advantage of repetition and doing it your own time. They also suggested that online tutorials ‘could substitute face to face if in controlled environment’. This regional employer from Coffs Harbour even went as far as saying ‘face to face online would possibly be better, that way they can go back and review and maybe not travel as much.’  It was also noted by a north region stakeholder stated ‘Block release for a young person it is huge. Some of my previous apprentices had to travel to Sydney (Wetherill park) and it was difficult due to the distance and their age.’  A group of stakeholders from the south region including two group training organisations indicated that they have employees that are competent body makers but lack the qualification required for licencing. The need for an ‘assessment only pathway’ and/or RPL was raised.  **Action**  TAFE NSW is considering adopting a blended mode of delivery that includes online learning in combination with face to face delivery either in a simulated work environment at a TAFE NSW campus or on site in the workplace.  TAFE NSW to ensure that any online material is easy to navigate and will not result in lost learning time.  TAFE NSW to ensure students receive credit transfers and recognition of prior learning (if existing) when they are enrolled in the AUM30218 Certificate III in Automotive manufacturing technical operations – bus, truck and trailer.  TAFE NSW to consider the impact block release may have on apprentices and where possible consider local deliver.  TAFE NSW is considering the development of an assessment only pathway for existing workers that do not have sufficient evidence for RPL. |
| **4** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  19/03/2019 | **Training methods**  A range of stakeholders from three regions covering bus, truck and trailer manufacturing, modification, service and repair indicated their preferred training methods.  **Feedback:**  There was unanimous support for face to face training. A small employer specialising in truck and trailer modification and repair indicated ‘face to face was the preferred option with a hard copy student workbook and some videos (e.g. fibre glassing). It was suggested that the apprentices could be recorded while welding and replay the video as a reflection activity.’  Theory notes with images had a majority preference. In addition to face to face and written theory notes with images, several stakeholders indicated a preference for, video demonstrations, computer simulation, online quizzes accessible on any device 24/7.  A national manufacturer of coaches supported theory with images asserting the use of visual and written methodologies was adequate and that PowerPoint presentations were unnecessary. This same employer continued stated their absolute support for online quizzes ‘with feedback so they can monitor learning, correct misconceptions, reinforce.’ They indicated their preference for online questioning over book based suggesting it is an ‘old methodology and delayed feedback – even pre-schoolers do it online these days.’  **Action**  TAFE NSW is considering utilising a range of training methods including a combination of written theory notes with images, face to face presentations and online resources such as video demonstrations where available.  TAFE NSW is exploring the possibility of online tutorials for regional and remote students as well as the possibility of including both hard copy student guides with practice questions as well as online practice quizzes and activities with immediate feedback and multiple attempts as online learning activities.  TAFE NSW is considering adopting a blended mode of delivery that includes online learning with 24/7 access to learning materials on any device supported by face to face in class demonstrations in a simulated work environment. |
| **5** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  19/03/2019 | **Assessment methods**  A range of stakeholders from three regions covering bus, truck and trailer manufacturing, modification, service and repair indicated their preferred assessment methods.  **Feedback:**  A range of assessment methods were identified by stakeholders including:   * observations in a TAFE NSW simulated workplace or on the job. * project based skills assessment (over time with product assessment) * theory assignment (over time with ability to research) * practical exam and theory exams (specific day/time) * Workplace evidence (photos and/or videos)   A small employer specialising in truck and trailer modification and repair expressed concerns that practical exams are stressful and the apprentice may have an ‘off day.’ They also were concerned that over repetition of ‘mock tests’ could be an issue and that exam questions should be similar but not the same. The suggestion was that an assignment/portfolio type assessment may be more appropriate, the apprentices could take photos and write a description against it, making cheating difficult as the photos would be unique. This concept was supported by another who also suggested a portfolio where the apprentice takes pictures, writes about what they did (techniques and tools) and includes reference to any applicable standards.  **Action**  TAFE NSW to consider using a combination of practical observations, project-based skills assessments, theory assignments and/or practical and theory exams as possible assessment methods after consideration of the assessment conditions of each unit. Where possible assessment may be conducted on the job.  If multiple choice questions are use in exams, TAFE NSW to consider using different but similar questions to that used in any practice questions. TAFE NSW to consider allowing open book for exams excluding safety related questions.  TAFE NSW is also exploring the possibility of workplace evidence capture (photos and/or videos) to inform assessment decisions. |
| **6** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  19/03/2019 | **Assessment methods**  A range of stakeholders from three regions covering bus, truck and trailer manufacturing, modification, service and repair indicated their preferred assessment methods.  **Feedback:**  A range of assessment methods were identified by stakeholders including:   * observations in a TAFE NSW simulated workplace or on the job. * project based skills assessment (over time with product assessment) * theory assignment (over time with ability to research) * practical exam and theory exams (specific day/time) * Workplace evidence (photos and/or videos)   A small employer specialising in truck and trailer modification and repair expressed concerns that practical exams are stressful and the apprentice may have an ‘off day.’ They also were concerned that over repetition of ‘mock tests’ could be an issue and that exam questions should be similar but not the same. The suggestion was that an assignment/portfolio type assessment may be more appropriate, the apprentices could take photos and write a description against it, making cheating difficult as the photos would be unique. This concept was supported by another who also suggested a portfolio where the apprentice takes pictures, writes about what they did (techniques and tools) and includes reference to any applicable standards.  **Action**  TAFE NSW to consider using a combination of practical observations, project-based skills assessments, theory assignments and/or practical and theory exams as possible assessment methods after consideration of the assessment conditions of each unit. Where possible assessment may be conducted on the job.  If multiple choice questions are use in exams, TAFE NSW to consider using different but similar questions to that used in any practice questions. TAFE NSW to consider allowing open book for exams excluding safety related questions.  TAFE NSW is also exploring the possibility of workplace evidence capture (photos and/or videos) to inform assessment decisions. |
| **7** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02  MRS\_19\_11\_AUM30218\_IER\_06  MRS\_19\_11\_AUM30218\_IER\_07 | 15/04/2019  15/05/2019  22/02/2019  19/03/2019 | **Equipment**  Operating since 1988 this national organisation designs, manufactures and services a range of products including truck bodies, hook lifts, truck cranes, dog trailers and semi-trailers for Hammar Side Loaders as well as custom engineered transport solutions.  **Feedback**  In terms of equipment this stakeholder indicated there was no equipment missing or outdated. The majority of stakeholders did not comment or indicated they were unsure in regard to equipment. |
| **8** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01 | 15/04/2019 | **Teacher currency**  With 40 years’ personal experience and 25 years in the transport manufacture and repair business this stakeholder specialises in chassis modifications and tipper and tabletop manufacturing and repairing. With ground to finish inhouse capabilities, services include pneumatics, hydraulics, electrics, towbars, painting and more.  **Feedback**  Only one stakeholder commented on teacher currency, they indicated that TAFE NSW teachers need to have the skills and knowledge in the subjects they teach. This employer suggested the following requirements.   * The welding trainers/training should be either MEM Boiler makers or AUM body makers. * The painting trainers/training should be either auto spray painters or industrial spray painters or industrial surface coating or AUM body maker.   **Action**  TAFE NSW to review AUM trainers and assessors to ensure they have the vocational competencies to deliver technical units. E.g. Welding units delivered by MEM boiler makers or AUM body makers, E.g. Spray-painting units delivered by either auto spray painters, industrial spray painters, industrial surface coating specialists or AUM body makers. |
| **9** | Automotive Manufacturing Employers and Group training organisations | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02 | Please refer to Industry Engagement Record(s):  MRS\_19\_11\_AUM30218\_IER\_01  MRS\_19\_11\_AUM30218\_IER\_02 | 15/04/2019  15/05/2019 | **Contextualisation**  Some stakeholders provided specific feedback on the content of many units from their specific industry perspective.  **Feedback**  Feedback on unit content:   * AUMATK002 - Prepare and operate tools, equipment and machinery should include: * E.g. operating a grinder, sander, saw, drill/drill press, router (handheld), bending machines * E.g. air and battery-operated devices * SOPs for the TAFE NSW equipment. (some provided by manufacturer) * AUMATK013 - Monitor and maintain automotive equipment: * Should relate to the equipment used in AUMATK002 - Prepare and operate tools, equipment and machinery e.g Saws: blunt blade * E.g. fixing air lines (not power leads) * E.g ‘grinder – changing disks (what disk to use for the application)’ * ‘need to know to not use a shifter for a hammer. Identify something wrong.’ * ‘Understanding how tool works, limitations of tool. Often don’t understand when to change blades, how to set up for best results.’ * ‘The apprentice should never try to fix the machine only identify it needs fixing.’ * AUMGLM011 - Apply heavy vehicle standards: * Understanding the ‘standards for weights of trailers in relation to brakes. Drive line angles need to cover more in-depth – with chassis extensions and shortening.’ * Need to know where to find the standards and learn the basics and how to reference them. * ‘No expectation that all of them would be covered.’ * ‘Were possible, if a standard is known to exist for the area of training:   + - Provide a direct link to the standard.     - Provide a quote from the standard.     - If not possible have a regular statement that ‘there may be standards that must be adhered to check the following: ADRs, NHVS, state-based rules etc.’ * ‘Need to know that when someone designed and tested the product, they ensured that it met the standards so if you change the design you may have made the product illegal, non-compliant and/or unsafe.’ * ‘Some body makers build on chassis not made by us; the chassis manufactures have their own requirements – student needs to be aware of the manufacturers body builders’ manuals – may specify touch point.’ * ‘Workplace assignment would be great – maybe workplace portfolio where they take pictures, write about what they did (techniques and tools) and included reference to any applicable standards.’ * AUMGQA001 - Apply workplace technical quality standards: * Quality checks are performed all the way through not just at the end. The apprentice ‘should be inspecting as they go, if they did a wire joint wrong and then tape/insulate – the quality of the joint would not show until failure.’ * Understanding of the level of quality required. E.g. rubbing back a panel can be done to different levels. * ‘A component is just a stage of work not a finished product (sub-assembly of finished product.) e.g. a weld.’ * AUMGTA011 - Read and interpret work orders and working drawings: * The ‘need to be able to sketch, need to be able to interpret the drawing’ * How to read, interpret and construct. * E.g. ‘Work order – you need to put in seats today, here are the parts go and do it.’ * AUMGTW001 - Perform basic welding, thermal cutting, heating and gouging * ‘should also include heat shrinking to straightening and implications of not doing it correctly. E.g. aluminium rear pillar in semi-trailer.’ * ‘Should include safe welding practices and up to 10mm thickness. * Should include performing all of these safely. * When to use Oxy and plasma, when not to use laser, it would be good if they know you can use laser instead of plasma. * Welders – ‘Oxy, MiG, TIG and different generations of welders would be good but not essential.’ * AUMGTM004 - Install and fit out components * Include fitting lights and seats * AUMGTM001 - Assemble vehicle components * Getting a work order and following instructions on how to put together. * Using different adhesives (glue, polyurethane based product, we use a lot of sika) and tools, weld together steel, clean/ground back, coated with rust preventative, bond onto sheet metal or fiberglass using correct bonding product. * A practical project would be ideal for this unit. * AUMGTM004 - Install and fit out components   + Should include: ‘trimming different classes of vinyl (e.g. walls, ceiling, floor) properties of each. * One of the issues is breathability (vinyl breathability is poor, glue may not set) – know what the properties of adhesives are when working with different materials. ‘   + Include properties of materials e.g. vinyl shrinks with age – need to fix down properly so it is not affected by shrinkage over time. * AUMGTM007 - Assemble, install and test pneumatic system kits * E.g. Air brakes, suspension, drivers’ seats operate on air, emergency brake systems, bus doors. * E.g. Hooking up vacuum to breaks – know when to put protection valves. * AUMGTN001 - Replace and repair vehicle body panels and fittings * ‘on bodies, not cabs, as that would be panel beating.’ * E.g. front entry doors, driver’s * AUMGTR003 - Test, modify and repair vehicle electrical circuits and systems * Basic circuits and systems – need training on recognising CAN bus systems * E.g. installing and testing end products (lights, connect the end devices) connecting device. * AUMGTS002 - Prepare materials for fabrication using manual processes * ‘Putting a prep on for weld penetration – if you grind weld off need to prep service.’ * AUMGTY002 - Install vehicle components * ‘need to know where to research where to attach the components to the frame.’ * AUMGTY001 - Paint vehicle chassis and panels * E.g. painting vehicle chassis, some do underbody epoxy work * AUMGTY003 - Modify and repair chassis and frames * E.g. need to keep the chassis aligned, join to the extension frame. * ‘Heavy gauge welding must be included in this unit.’ * AUMGTG001 - Install fixed and moveable glass components on vehicles * ‘Not window winders. Only sliding or fixed windows e.g. horse float.’   **Action**  TAFE NSW will consider contextualising the above units to include these suggestions where possible. |

3. Transition Arrangements

When there is a change to the Training Package that impacts on this TAS, the SkillsPoint will work with Standards and Compliance teams to complete a Transition Plan and notify all staff affected as soon as possible.

TAFE NSW complies with clauses 1.26 and 1.27 of the *Standards for RTOs 2015*. When there are major changes to the Training Package, the SkillsPoint will review the changes made and create a plan to transition to the new training package requirements and cater for completion arrangements for students where possible. The progress of the transition will be implemented by the Delivery, Implementation and Performance and Skills Teams and monitored by Standards and Compliance teams.

Transition arrangements must be completed within 12 months of changes being published on training.gov.au for superseded qualifications and two years for deleted training products.

Does this qualification require the completion of a Transition Plan  Yes  No

If yes, a completed Transition Plan is attached.

4. Structure, Delivery and Assessment

### 4.1 Volume of Learning

**Volume of Learning** includes all activities required to be undertaken by the typical student to achieve learning outcomes. It is comprised of the Amount of Training + the Amount of Assessment + Unstructured Learning.

**Amount of Training** takes into consideration the existing skills, knowledge and experience of students, the mode of delivery, availability of resources and the number of units. It is the **Structured Learning** – formal learning activities, which may consist of

• Lectures or tutorials, on-line tasks and forums

• Learning activities

• Structured workplace experience

• Workshop activities

• Structured prescribed reading

• Prescribed follow-up activities

**Unstructured Learning** may include private study, assignment preparation, work experience and research.

A justification must be included for any differences between the **AQF Volume of Learning indicator** and the total hours in each instance of course delivery. Factors that may reduce volume of learning can include the number of units packaged in the qualification, student having pre-existing knowledge and skills, mode of delivery and clustering of units. For further information see [Fact Sheet - Amount of Training](https://www.asqa.gov.au/news-publications/publications/fact-sheets/amount-training).

The **AQF Volume of Learning indicator** for this product is: Certificate III 1200-2400 hours

The **Total Amount of Training Hours** for this product is: **620**

The **Total Amount of Assessment Hours** for this Product is: **100**

The Total Estimated **Unstructured Learning Hours** for this product are: **1572**

The **Total Volume of Learning** for this product is: **2292**

### 4.2 Delivery Strategy

Details of the Volume of Learning for this training product are outlined below:

Table 7 Volume of Learning - Detail

| **No.** | **Delivery Mode** | **Types of Structured Learning** | **Structured Learning**  **Hours** | **Assessment Hours** | **Unstructured Learning Hours** | **Volume of Learning** |
| --- | --- | --- | --- | --- | --- | --- |
| **1** | **Face to face** | Lectures or tutorials, Assignments  Workshop / practical tasks | 620 |  |  | 620 |
| **2** | **Assessment** | Knowledge and Skills assessments |  | 100 |  | 100 |
| **3** | **Workplace learning experience as per Apprentice / Trainee training plan** | Workplace Learning (as per apprentice training plan)  2hrs per day = 10hrs per week/46 weeks per year x 3 years |  |  | 1380 | 1380 |
| **4** | **Self - Directed** | Review of structured activities  1hrs per week/32 weeks per year x 3 years |  |  | 96 | 96 |
| **5** | **Self - Directed** | Preparation for assessments  1hrs per week/32 weeks per year x 3 years |  |  | 96 | 96 |
|  | **Total VOL** |  | 620 | 100 | 1572 | 2292 |

**Outline of Delivery Strategy and Justification for variance in Volume of Learning from the AQF Indicator:**

Structured learning Hours will be delivered face to face.

Assessment hours include Skills based assessments, knowledge based assessments, and some regions may choose to deliver these in the workplace based on consultation with regional employer needs and delivery team’s capability.

**Student cohort**

Students enrolled in this qualification are apprentices employed full time seeking to gain skills and knowledge to become a qualified Automotive Manufacturing technician after successful completion. Students will work in industry and study at the same time.

**Duration:**

The duration of this qualification will be 24 weeks of attendance across 6 semesters over 3 years

Attendance pattern follows a block release pattern

24 blocks of 30 hours per block, (4 days per block @ 7.5 hours per day)

9 blocks Stage 1, year 1

9 blocks Stage 2, year 2

6 blocks Stage 3, year 3

**Elective choice**

Electives for this qualification stream have been chosen based on consultation with industry and across TAFE NSW delivery sites.

**Volume of Learning:**

The Volume of Learning for this training product is 2292. Students will engage in 720 hours of training and assessment in a face to face delivery mode. This is supplemented by self-directed unstructured learning to review activities, prepare for assessments and apprentice monitoring in the workplace. Apprenticeships combine work based training with an employer and formal training with TAFE NSW. Apprentices are under a signed Training contract which is regulated by the government and training services NSW and this allows the apprentice to gain work based experience over the period of time that they are engaged in study and this is captured in the 1572 hours of unstructured learning activities and work based learning and mentoring.

**Delivery and Assessment**

Delivered over 3 years as per timeline in Table 8: Delivery and Assessment schedule.

The sequencing of units within each stage in table 8 may change pending the needs of local delivery locations

Delivery plan for this qualification stream will vary based on availability at each site of TAFE NSW flooring workshops and the Product Implementation Planners and Resources Monitoring Officers will determine this.

Delivery sites will work with their customers and HOSTs to determine best delivery pattern and capability.

**Delivery modes consist of:**

Face to face delivery supervised by a facilitator including lectures, tutorials and assignments. Also includes practical workshop learning activities. All learning activities completed by whole class, in small groups and individually at various points. Class based lessons cover the knowledge components of the units and the technical skills are developed in the simulated automotive workshop.

Self-directed - review of structured activities and preparation for assessment is recommended for students enrolled in this course. It is reasonably expected that students would undertake self-directed learning activities and assessment preparation for 2 hours per week over the 32 weeks of the TAFE NSW calendar.

**Workplace Learning Experience**

Workplace learning experience - unstructured on the job learning as part of their apprenticeship training plan.

According to “A guide to Apprenticeships and Traineeships in NSW” by Dept of Industry – Section 6.2.1 Training Obligations, an employer of an apprentice or trainee must:

Ensure that the apprentice or trainee receives the work-based training by providing appropriate supervision and all necessary facilities, resources and opportunities to acquire the skills of the vocation.

As part of the agreement of the Apprentice Training Plan, an employer is accepting their obligation to provide the apprentice with sufficient practice and exposure in the workplace over the duration of the apprenticeship to all criteria in the units of competency listed in the Training Plan.

During this unstructured on-the-job learning the student will put into practice the skills they have learned at TAFE into a real work environment providing a hands on approach to refining their skills for particular jobs, roles and requirements of their workplace.

As part of the unstructured hours, employers (as part of training contract conditions outlined in the student’s Training Plan) negotiate units of study for which they can provide the student with the necessary experiences and learning to become workplace competent.

The amount of unstructured work based learning is 10 hours per week for 46 weeks of each year for the duration of this qualification.

**Assessment:**

Assessment includes both knowledge and skills assessment tasks. All assessment activities will be conducted in the simulated workplace environment at TAFE that fully replicates an automotive workshop.

Skills assessments will include direct observation of tasks in the simulated automotive workshop and will use all the required tools, materials, equipment and follow standard work practices and safety requirements.

Knowledge assessment will include access to TAFE classroom, computers, assessment tasks and supporting materials required to complete assessment.

Assessment is structured so that a number of performances may be demonstrated and assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge that is able to be transferred to other circumstances and environments.

Assessors will gain employer confirmation of competence in accordance with Training Services NSW requirements for Apprentice training plans for final sign off of units of competence.

**Student Support**

The apprentice and employer will receive a work plan outlining skills required at agreed timelines, and a learning and assessment plan which will be supported by the apprentice’s Training Plan.

Progress through the course is monitored against the apprentices’ Training Plan so that any issues are identified and rectified in a timely manner. Trainer/assessors communicate with the employer on a 6 monthly timeframe to discuss the students’ progress, to negotiate any changes to a plan requested by the employer, and to discuss any intervention strategies such as gap training to address any units where the student has been deemed Not Competent (NC).

Further support will be provided via fluid communication with teaching staff including ESOs and added sessions as appropriate. The aligned TAFE teacher will provide support as required in delivery and assessment to the context of each workplace

### 4.3 Assessment

*Table 8* below provides a description of the sequencing of units throughout the program. It also outlines the delivery strategy, the mode (face to face, online, workplace, etc.), the hours of training and assessment required and the assessment methodology.

#### Assessment Method Legend

The assessment methods used for this training product are as follows:

**Sk Skills** (role play scenario, presentation, practical, observation)

**Kn Knowledge** (multiple choice, true or false, short answer questions)

**Pro Project** (report, research based project, journal, essay)

**CS Case study** (case study scenario, reflection)

**TLB Training Log Book**

**Prt Portfolio** (samples of work in a workplace environment)

**O Other** (add description)

#### Delivery and Assessment

Table 8 Delivery and Assessment Schedule

| **Sequence.** | **Unit Code and Unit Title** | **Cluster Group #**  **Or Stand Alone** | **Unit Delivery Mode** | **Training and Assessment Hours** | **Unit**  **Start and End dates** | **Assessment:**  **Methods and Weighting**  *(refer to legend)* | **Assessment: Due Dates** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Stage 1 – Year 1** | | | | | | | |
| **1** | AUMATK002 – Prepare and operate tools, equipment and machinery | Stand Alone | Blended | T: 36  A: 6 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **2** | AUMATK013 – Monitor and maintain automotive equipment | Stand Alone | Blended | T: 24  A: 4 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **3** | AURASA002 – Follow safe working practices in an automotive workplace | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 50%  Kn – Short answer questions 50% |  |
| **4** | AURAMA001 – Work effectively with others in an automotive workplace | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **5** | AURAFA003 – Communicate effectively in an automotive workplace | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **6** | AUMGTA011 – Read and interpret work orders and working drawings | Stand Alone | Blended | T: 18  A: 3 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **7** | AUMGTM005 – Read and interpret engineering drawings and determine requirements | Stand Alone | Blended | T: 48  A: 7 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **8** | AUMGTW001 – Perform basic welding, thermal cutting, heating and gouging | Stand Alone | Blended | T: 18  A: 3 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **9** | AUMGTW002 – Perform mechanical cutting | Stand Alone | Blended | T: 16  A: 2 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **10** | AUMGTW005 – Perform gas metal arc welding | Stand Alone | Blended | T: 30  A: 5 |  | SK – Practical, Observation - 50%  Kn – Short answer questions 50% |  |
| **11** | AUMGTM001 – Assemble vehicle components | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **12** | AUMGTR003 – Test, modify and repair vehicle electrical circuits and systems | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 50%  Kn – Short answer questions 50% |  |
| **Stage 2 – Year 2** | | | | | | | |
| **13** | AURHTB001 – Diagnose and repair heavy vehicle air braking systems | Stand Alone | Blended | T: 18  A: 2 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **14** | AUMGTM004 – Install and fit out components | Stand Alone | Blended | T: 18  A: 3 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **15** | AUMGTY002 – Install vehicle components | Stand Alone | Blended | T: 36  A: 6 |  | SK – Practical, Observation - 80%  Kn – Short answer questions 20% |  |
| **16** | AUMGTS004 – Fabricate parts for vehicle sub-assemblies | Stand Alone | Blended | T: 27  A: 4 |  | SK – Practical, Observation - 80%  Kn – Short answer questions 20% |  |
| **17** | AUMGTN001 – Replace and repair vehicle body panels and fittings | Stand Alone | Blended | T: 36  A: 6 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **18** | AUMGTS001 – Prepare materials for fabrication using jigs and fixtures | Stand Alone | Blended | T: 18  A: 3 |  | SK – Practical, Observation - 60%  Kn – Short answer questions 40% |  |
| **19** | AUMGTS002 – Prepare materials for fabrication using manual processes | Stand Alone | Blended | T: 18  A: 3 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **20** | AUMGTW004 – Perform gas tungsten arc welding | Stand Alone | Blended | T: 24  A: 4 |  | SK – Practical, Observation - 80%  Kn – Short answer questions 20% |  |
| **Stage 3 – Year 3** | | | | | | | |
| **21** | AUMGLM011 – Apply heavy vehicle standards | Stand Alone | Blended | T: 24  A: 4 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **22** | AUMGQA001 – Apply workplace technical quality standards | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 20%  Kn – Short answer questions 40%  Kn – Short answer questions 40% |  |
| **23** | AUMGTM006 – Assemble, install and test hydraulic system kits | Stand Alone | Blended | T: 24  A: 4 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **24** | AUMGTM007 – Assemble, install and test pneumatic system kits | Stand Alone | Blended | T: 24  A: 4 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
| **25** | AUMGTM002 – Assemble vehicle frames and axles | Stand Alone | Blended | T: 13  A: 2 |  | SK – Practical, Observation - 80%  Kn – Short answer questions 20% |  |
| **26** | AUMGTY003 – Modify and repair chassis and frames | Stand Alone | Blended | T: 27  A: 5 |  | SK – Practical, Observation - 90%  Kn – Short answer questions 10% |  |
| **27** | AUMGTY001 – Paint vehicle chassis and panels | Stand Alone | Blended | T: 16  A: 2 |  | SK – Practical, Observation - 60%  Kn – Short answer questions 40% |  |
| **28** | AURHTD003 – Diagnose and repair heavy commercial vehicle suspension systems | Stand Alone | Blended | T: 29  A: 6 |  | SK – Practical, Observation - 70%  Kn – Short answer questions 30% |  |
|  |  |  |  | **T: 620**  **A: 100** |  |  |  |

5. Master TAS Approval

**Product Manager**

Name: **ngriffiths1(NEIL.GRIFFITHS@tafensw.edu.au)Neil GRIFFITHS**

Signature: Approval was given electronically in DATA (see request 1586):

<https://live.nei.tafensw.edu.au/DATA2/Site/Approvals/step2.aspx?request_id=1586>

Date: 29/10/2019, 02:30 PM

**Senior Manager, Product Development Support**

Name: **jfuller (Joanne.Fuller@tafensw.edu.au)Jo FULLER**

Signature: Approval was given electronically in DATA (see request 1586):

<https://live.nei.tafensw.edu.au/DATA2/Site/Approvals/step2.aspx?request_id=1586>

Date: 29/10/2019, 09:08 PM

**Head of SkillsPoint**

Name: **pfarrow5 (Paul.Farrow3@tafensw.edu.au)Paul FARROW**

Signature: Approval was given electronically in DATA (see request 1586):

<https://live.nei.tafensw.edu.au/DATA2/Site/Approvals/step2.aspx?request_id=1586>

Date: 31/10/2019, 07:39 AM

PART B – Delivery TAS Information

6. Delivery Details

**Delivery Location**

Campus:

Region:

**Offering Owner**

Name:

ebs Identifier:

**Mode/s of Delivery**

Face to Face Learning

Workplace Training

Online Learning

Blended

Other:

**Details of Target Student Group**

**Duration**

Total Hours:

Total Weeks:

Start and End Date:

### 6.1 Entry Requirements

The following **local entry requirements** exist for this course:

### 6.2 Additional Student Support at Delivery Location

The following additional Student Support is available:

### 6.3 Contextualisation

Following from the Delivery Strategy outlined in Section 4 above, the following arrangements have been made to contextualise delivery of this Training Product to meet the needs of this student group:

7. Third Party Arrangements

Are any training and assessment components for this product delivered by a third party, and if so has the required written agreement been put in place?  Yes  No

If yes, please provide a summary of the third party arrangement:

Have the details of this arrangement been attached?  Yes  No

Have details of this arrangement been provided to TAFE NSW Governance, Legal and Risk?  Yes  No

Has ASQA been notified of this arrangement prior to any delivery commencing?  Yes  No

8. Staff Qualifications and Industry Experience

Insert link to detailed staff matrix.

Table 9 Staff Matrix

| **No** | **Units of Competency Delivering / Assessing**  (multiple units can be grouped together) | **Trainer/ Assessor Name** | **Trainer, Assessor or Both** | **Training and Assessment Qualifications**  **AND**  **Current evidence of ongoing development in training and assessment practice**  *(including correct title, name of provider and date)* | * **Vocational Qualifications** * **Licences** * **Professional development including ongoing exposure and development to maintain currency of industry skills**   *(including correct title, name of provider and date)* |
| --- | --- | --- | --- | --- | --- |
| *Delete this row after completing table* | *RII30915 - Certificate III in Civil Construction (Release 1)*  *RIIBEF201D*  *RIICOM201D*  *RIIOHS201D* | *Joe Bloggs* | Trainer only | * TAE40110 Certificate IV in Training and Assessment – ABC Training 23 November 2016. * VELG Assessment Practices Workshop 5 June 2018. * HTAN Training News Update Breakfast Meeting 26 March 2018. * ASQA Training Provider Briefing Session June 2018 | * BCC30107 - Certificate III in Civil Construction – XYZ Training 17 June 2008. * RII30913 - Certificate III in Civil Construction – Bendigo Kangan Institute – 03 June 2013 * CPCCOHS1001A - Work safely in the construction industry - XYZ Training 3 Sep 2009. * Construction Australia Expo, Brisbane, 11 March 2017 * Australian Building Codes Board Seminar, Canberra, 20 October 2017 * Civil Engineer operating own consultancy from 2005-current. |
| **1** |  |  | Choose an item. |  |  |
| **2** |  |  | Choose an item. |  |  |
| **3** |  |  | Choose an item. |  |  |
| **4** |  |  | Choose an item. |  |  |
| **5** |  |  | Choose an item. |  |  |
| **6** |  |  | Choose an item. |  |  |
| **7** |  |  | Choose an item. |  |  |
| **8** |  |  | Choose an item. |  |  |
| **9** |  |  | Choose an item. |  |  |
| **10** |  |  | Choose an item. |  |  |
| **11** |  |  | Choose an item. |  |  |
| **12** |  |  | Choose an item. |  |  |
| **13** |  |  | Choose an item. |  |  |
| **14** |  |  | Choose an item. |  |  |
| **15** |  |  | Choose an item. |  |  |
| **16** |  |  | Choose an item. |  |  |
| **17** |  |  | Choose an item. |  |  |

9. Additional Industry/Community Engagement

Training and assessment practices must be relevant to the needs of industry and communities and be informed by consultation, this may also influence resources and staff currency. Details below are of further engagement activities undertaken for this training product at a Regional/Local level.

Table 10 Additional Industry/Community Engagement

| **No** | **Industry/Organisation** | **Representative Name** | **Contact Details**  **(Email/Telephone)** | **Date of Consultation** | **How did this engagement influence one or more of the following?**   * Qualification/ Course / Skill set selection * Elective selection and/or sequencing * Mode of study * Training Methods * Assessment Methods * Trainer and assessor requirements * Training and assessment resources and equipment * Contextualisation |
| --- | --- | --- | --- | --- | --- |
| **1** |  |  |  |  |  |
| **2** |  |  |  |  |  |
| **3** |  |  |  |  |  |
| **4** |  |  |  |  |  |
| **5** |  |  |  |  |  |
| **6** |  |  |  |  |  |
| **7** |  |  |  |  |  |
| **8** |  |  |  |  |  |
| **9** |  |  |  |  |  |

10. Assessment Validation

Validation is the quality review of the assessment processes and judgements. Validation involves checking that the assessment tool/s produce/s valid, reliable, sufficient, current and authentic evidence that complies with the appropriate AQF level and the dimensions of competency to enable reasonable judgments to be made as to whether the requirements of the training package or VET accredited courses are met. It includes reviewing a statistically valid sample of the assessments and making recommendations for future improvements to the assessment tool, process and/or outcomes and acting upon such recommendations.

Clause 1.9 and 1.10 of the Standards for RTOs require that the RTO implements a plan for ongoing systematic validation of assessment practices and judgements; the plan needs to ensure that each training product is validated at least once every five years, with at least 50% of products validated within the first three years of each five year cycle.

### 10.1 Validation of assessment judgements

Details of the scheduled validation of judgements for the training product identified in this Training and Assessment Strategy are provided below:

Table 10 Validation of assessment judgements

| **Date of last validation of judgements** | **Codes and names of units validated** | **Number of judgements included in the sample for each unit** | **Have the actions arising from the validation been completed and signed off? If No, please outline below outstanding actions and when they are due for completion** | **Scheduled date of next validation of judgements** |
| --- | --- | --- | --- | --- |
| Click here to enter a date. |  |  | Yes No | Click here to enter a date. |

Location of validation record:

Details confirmed by:

Signature:

11. Delivery TAS Approval

The signatures below indicate that the Delivery Team meets the requirements of the Master Product outlined above. Any additional Contextualisation must be outlined in a Business Case and referred back to the SkillsPoint - details in Part A above.

**Delivery Location**

Campus:

Region:

**Team Leader (or equivalent)**

Name:

Signature:

Date:

**Head of Skills Team**

Name:

Signature:

Date:

**Head of Delivery, Implementation and Performance**

Name:

Signature:

Date: