PART A – SkillsPoint Product Information

Master Product Information

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

**Training Product Code:** **MEM10119**

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

**Training Product Name:** **Certificate I in Engineering**

**Status of Training Product:** Current

**Release Date:** **26/06/2019**

**Category of Product:**  Nationally Recognised Qualification

Accredited Course

Skill Set

Statement of Attainment

Non Nationally Recognised

**SkillsPoint Details**

**Product Manager: Dean Williams**

**Contact Details: dean.williams@tafensw.edu.au**

**SkillsPoint Project Identifier: MRS\_19\_15\_MEM10119**

Master Delivery Information

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

**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/MEM10119>**

**Number of Core Units:** **1**

**Number of Elective Units: 7**

**Total Number of Units: 8**

**Packaging Rules:**

To be awarded the MEM10119 Certificate I in Engineering units of competency to a value of 16 points must be achieved, chosen as outlined below:

Core unit of competency listed below (totalling 2 points) and

Elective units of competency to a value of 14 points from Group A.

Appropriate elective units to the value of 4 points may be chosen from this Training Package, other endorsed Training Packages and accredited courses where those units are available for inclusion at Certificate I. Only select units that would be suitable for occupational outcomes in an engineering/manufacturing environment.

Registered Training Organisations (RTOs) must seek a determination from the industry parties in respect of the allocation of point’s values for units of competency drawn from other Training Packages or accredited courses. Determination of points requests are to be submitted to the industry parties through Innovation and Business Skills Australia (IBSA) Manufacturing. Refer to the MEM Companion Volume Implementation Guide for information on determination of unit point’s values.

Prerequisites

Points associated with prerequisites count towards the total. Units with prerequisite requirements are marked with an asterisk (refer to the individual units for details). All prerequisites are included in the units listed.

(See the full packaging rules in Training.gov.au).

### 1.2 Licensing and/or Regulatory Requirements

There are no specific licences that relate to this qualification. However, some units in this qualification may relate to licensing or regulatory requirements.

### 1.3 Qualification Description

This qualification defines entry-level skills and knowledge to assist workers entering employment as engineering/manufacturing employees within the metal, engineering, manufacturing and associated industries.

### 

### 1.4 Pathways

**Study Pathways**

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

The study pathways available to learners who undertake this qualification include:

MEM20219 Certificate II in Engineering – Production Technology

MEM30119 Certificate III in Engineering – Production Systems

MEM30219 Certificate III in Engineering – Mechanical Trade

MEM30319 Certificate III in Engineering – Fabrication Trade

MEM30719 Certificate III in Marine Craft Construction

MEM30819 Certificate III in Lock smithing

MEM31019 Certificate III in Watch and Clock Service and Repair

MEM31119 Certificate III in Engineering – Composites Trade

MEM31319 Certificate III in Refrigeration and Air Conditioning

MEM31519 Certificate III in Engineering – Toolmaking Trade

MEM31719 Certificate III in Engineering – Casting and Moulding Trade

MEM40119 Certificate IV in Engineering

MEM50119 Diploma of Engineering – Advanced Trade

**Employment Pathways**

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

Achievement of the MEM10119 Certificate I in Engineering will provide a set of competencies that collectively open pathways into employment and/or further study in the engineering/manufacturing industry.

### 1.5 Entry Requirements

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

There are no entry requirements for this qualification.

### 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** | MEM13015 – Work safely and effectively in manufacturing and engineering | 2 points |

#### 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** | MEM05012 – Perform routine manual metal arc welding | ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Group A (2 points) |
| **2** | MEM07032 – Use workshop machines for basic operations | ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information  MEM18001 Use hand tools | Group A (2 points) |
| **3** | MEM11011 – Undertake manual handling | ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Group A (2 points) |
| **4** | MEM12023 – Perform engineering measurements | ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Group A (5 points) |
| **5** | MEM16006 – Organise and communicate information | ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering | Group A (2 points) |
| **6** | MEM18001 – Use hand tools | ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Group A (2 points) |
| **7** | MEM18002 – Use power tools/hand held operations | ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Group A (2 points) |

### 1.8 Imported Units

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

Table 3 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 engineering workshop 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 supported with the following:

\* Risk Assessments

\* Standard Operating Procedures

\* Safety Data Sheets

Additionally there is access to:

\*A range of Materials and Positions

\*A range of different conditions reflective of what would be found in Industry

\*Workplace procedures and plans

\*Product and manufacturing specifications

\*Relevant codes, standards, manuals and reference materials.

\*Documentation in relation to production, waste, overheads, hazard control/management

\*Reports from supervisors/managers

\*Case study/scenarios

The facilities at the TAFE NSW will provide students with adequate access to all tools and equipment with the following ratios as a *minimum* of:

**Equipment: Student**

\* Work benches and work stations 1:1

\* General hand /power/marking out tools and equipment 1:1

\* Welding bays/ welding machines 1:1

\* Drilling machines 1:2

\* Mechanical cutting / bending/ shaping/ folding / forging equipment etc 1:15

**Work placement** will be achieved by:

**Detail: N/A**

**Eligibility for work placement: N/A**

**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 | Each TAFE NSW Regional centre will provide at least one delivery campus. Facilities will include a classroom with computers with relevant software installed for online learning/ CAD drawing capabilities, internet access, desks, chairs, and white/chalk board and projector capabilities.  An Engineering Fabrication workshop for the delivery of practical activities and assessments, complete with all tools/equipment and machinery of industry standard.  TAFE Campus Library facilities including: computing lab equipped with relevant software for provision of online learning access, internet access. |
| Equipment | MEM05012 Manual Metal Arc Welding Machine, Welding leads, welding machines, electrode holder etc.  MEM07032 Lathe, Radial arm drill, Milling machine, chucks, vices, clamps, bars and packing.  MEM11011 Hand trolleys, wheelbarrows, motorised hand pallets trucks, hand carts, dedicated lifting equipment, baskets, spreader bars, and cradles or attached lifting equipment.  MEM12023 Protractors, combination squares, set squares, dial indicators, thermometers, tapes, rules, micrometres, vernier-scaled measuring equipment  MEM16006 Job instructions, specifications, standard operating procedures (SOPs),charts, lists, documents, computer data, drawings, sketches, tables, technical manuals and/or charts ,other applicable reference material  MEM18001 Hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and types, hand held taps and dies  MEM18002 Electric or pneumatic/hydraulic drills, grinders, jigsaws, nibblers, cutting saws, sanders, planers, routers, pedestal drills and pedestal grinders  Additionally there is access to:   * A range of Materials and Positions * A range of different conditions reflective of what would be found in Industry * Workplace procedures and plans * Product and manufacturing specifications * Relevant codes, standards, manuals and reference materials. * Documentation in relation to production, waste, overheads, hazard control/management * Reports from supervisors/managers * Case study/scenarios |
| Trainer and Assessor Qualifications and Industry Experience | Minimum qualification of Certificate I in Engineering or equivalent.  Evidence of maintaining relevant and current industry professional development including ongoing exposure and development to maintain currency of industry skills.  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  Online teaching and learning and assessment capabilities. Software packages such as CAD Master, Microsoft Word, and Excel are all available on classroom computers.  Access to library services including books, eBooks, industry journals and magazines, on-line data base specific to trade profile. Access to trade relevant multimedia learning materials. Access to policies and procedures, WHS legislation, regulations and codes of practice, Australian Standards, manufacturer instructions, industry legislation, forms and templates such as checklists, hazard reports, quality assurance, work plans etc. |

### 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** | Group Training Organisation | MRS\_19\_15\_MEM10119\_IER\_01 | MRS\_19\_15\_MEM10119\_IER\_01 | 16.12.2019 | This stakeholder employs apprentices across a broad spectrum of enterprises in manufacturing and engineering in the Hunter Region. For this organisation, graduates of the MEM10119 Certificate I in Engineering would most likely enter employment into apprenticeships in MEM30219 Certificate III in Engineering-Mechanical Trade and Certificate III in Engineering-Fabrication Trade. As part of the MEM10119, candidates complete common core units in work health and safety: MEM13015 Work safely and effectively in manufacturing and engineering. Additionally, candidates also complete MEM05012, MEM07032, MEM11011, MEM12023, MEM16006, MEM18001, MEM18002 that will prepare them with basic skills required at entry level in the manufacturing and engineering workplace. Employment pathways for this employer are: MEM30219 Certificate III in Engineering-Mechanical Trade and MEM30319 Certificate III in Engineering-Fabrication Trade  **Feedback:**  This employer’s preferred mode of delivery is a blended approach including face to face at the RTO, in the workplace on a part-time basis. In terms of unit selection for this qualification, this employer contends that the unit MEM18002 Use power tools/hand-held operations encompasses the use of power equipment and presents risks to students.  **Action/s:**  Learning resources for MEM18002 Use power tools/hand-held operations need to comply with Comply with work health and safety (WHS) requirements at all times  Safe use of power tools is specified within this unit of competency under element 1 PC1.2  1.2 Comply with work health and safety (WHS) requirements at all times  TAFE NSW will ensure that the learning and assessment resources for units delivered within MEM10119 will meet the requirements within each unit of competency, including WHS. |
| **2** | Manufacturing and Engineering | MRS\_19\_15\_MEM10119\_IER\_02 | MRS\_19\_15\_MEM10119\_IER\_02 | 16.12.2019 | This enterprise employs apprentices in the MEM30205 Certificate III in Engineering-Mechanical Trade to operate subtractive computer numerical control machining centres to manufacture precision components.  For this enterprise, graduates of the MEM10119 would enter apprenticeships with awareness of work health and safety through the completion of the core unit MEM13015 Work safely and effectively in manufacturing and engineering. The following elective units which are included in this MEM10119 Training and Assessment Strategy would provide basic skills in manufacturing and engineering field   * MEM05012 * MEM07032 * MEM11011 * MEM12023 * MEM16006 * MEM18001 * MEM18002   This enterprise states  that graduates of the MEM10119 would be better prepared for this workplace requiring less initial upfront training.    **Feedback:**  This employer’s preferred mode of delivery is a blended approach including face to face at the RTO, in the workplace on a full-time basis. For training delivery, this employer reported a preference for online class options. Assessment should include a range of options including simulated RTO based, workplace assessment, workplace evidence, and practical assessment.  In terms of unit selection for this qualification, this employer has provided feedback on numeracy skills required by apprentices in the MEM30219 Certificate III in Engineering-Mechanical Trade specifically for machining calculations. These skills are not covered in the MEM10119.  Additionally, the employer is seeking input on content for the work health and safety content in MEM13015.  **Action/s:**   * TAFE NSW to consider the implementation of online learning options for students enrolled in this qualification. * Consult with employer to demonstrate learning and assessment materials in the design MEM13015 * Consider the inclusion of the unit: *MEM12024 Perform computations* to address specific trade calculations |
| **3** | Welding Industry Association | MRS\_19\_15\_MEM10119\_IER\_03 | MRS\_19\_15\_MEM10119\_IER\_03 | 16.12.2019 | This association represents the welding and fabrication industry providing advice and support to industry and training providers.  Graduates of the MEM10119 qualification may enter into manufacturing and engineering industries that are included in the membership of this organisation. This organisation has provided feedback on the basis of their knowledge of skills required by industry and addressing skills shortages in this industry  **Feedback:**  This association’s coverage of qualifications includes:   * MEM10119 Certificate I in Engineering * MEM20105 Certificate II in Engineering * MEM30319 Certificate III in Engineering-Fabrication Trade * MEM40119 Certificate IV in Engineering * MEM50119 Diploma of Engineering- Advanced Trade   Their preferred mode of delivery is a blended approach focussing on both singular and clustered approaches. Preferred training methods include computer simulation, flexible access to training and online quizzes and activities with immediate feedback. Favoured assessment methods are practical exams, projects, simulated demonstrations and workplace assessment.  Feedback regarding unit selection in this training and assessment strategy was endorsed.  **Action/s:**  Delivery of this qualification is envisaged to be on a singular unit basis due to pre-requisites. Flexible delivery options via online platforms are being rolled out progressively across TAFE NSW and it is anticipated that the unit MEM13015 will be developed in a digital platform toward this objective. Practical and theoretical assessments in a simulated TAFE NSW engineering workshop are already included in relevant units. |
| **4** | Manufacturing and Engineering | MRS\_19\_15\_MEM10119\_IER\_04 | MRS\_19\_15\_MEM10119\_IER\_04 | 16.12.2019 | This enterprise has adopted advanced manufacturing in both additive and subtractive technologies to manufacture tooling for plastic injection moulding. Their feedback is based on candidates entering the manufacturing and engineering industry via their enterprise which is focussed on employing mechanical tradespeople and apprentices. In support of having candidates ‘work ready’ this enterprise endorses potential apprentices having basic skills in engineering, including work health and safety awareness via the completion of the unit: MEM13015 to be able to assess potential risks and taking precautions of risks through the correct application of personal protective equipment. Qualifications sought by this enterprise include:  • MEM10119 Certificate I in Engineering  • MEM20105 Certificate II in Engineering  • MEM30219 Certificate III in Engineering-Mechanical Trade  • MEM40119 Certificate IV in Engineering  • MEM50119 Diploma of Engineering- Advanced Trade   * Additive manufacturing   Their preferred mode of delivery is in the workplace and at the RTO. *“Core fundamentals in the classroom, applications in the classroom”*  Preferred training methods are face to face with theory notes and presentations, computer simulations (VR/AR), flexible 24/7 availability to training. Favoured assessment methods are practical exams, projects, simulated demonstrations and workplace assessment.  Unit selection and contextualisation:   * MEM16006 - Organise and communicate information * MEM12023 - Perform engineering measurements-   The employer’s response to the following question:  Are the units in the order you would expect them to be delivered? *“Some units should be held in tandem as workplace situations would require”* and Are there any critical skills missing? *assessment of unsafe*  *conditions, lockout/tagout procedures, tool*  *selection for job”* and  Are there any pieces of equipment outdated or missing? *“introduction to additive manufacturing technology”*  **Action/s:**  TAFE NSW have included the units listed above and the unit MEM18002 includes an element where the student is required to identify unsafe equipment and mark for repair.  In terms of qualifications, this course does not include additive manufacturing units. On a broader level, the nationally endorsed courses also to not directly address additive manufacturing.  Delivery ofthis qualification does not include a workplace component and training is planned for delivery in a simulated TAFE NSW engineering workshop.  As with training provision in digital platforms previously raised, AR/VR technologies in welding are being developed in the TAFE Digital Lab. Initially these will address welding safety.  Feedback above regarding communication skills will be addressed in unit MEM16006. Equally, measurement feedback will be covered in unit MEM12023.  Specific lock out/tag out procedure unit are available at higher MEM qualifications. |
| **5** | Manufacturing Skills Industry Training Advisory Board | MRS\_19\_15\_MEM10119\_IER\_05 | MRS\_19\_15\_MEM10119\_IER\_05 | 16.01.2020 | The ITAB role is to provide advice about industry training needs and related issues to the NSW Department of Industry — Training Services NSW  Based on their coverage of the manufacturing industry, MSA ITAB support this qualification MEM10119 as a pathway into engineering trades. The ITAB was included due to their state-wide research of the manufacturing industry. The perspective of the ITAB is based on what employers are seeking for entry level skills and knowledge to assist workers entering employment as engineering/manufacturing employees within the manufacturing and engineering industry.  Qualifications covered by the ITAB include and relevant to pathways from the MEM10119 include:  • MEM10119 Certificate I in Engineering  • MEM20105 Certificate II in Engineering  • MEM30219 Certificate III in Engineering-Mechanical Trade  • MEM40119 Certificate IV in Engineering  • MEM50119 Diploma of Engineering- Advanced Trade  Preferred modes of delivery include blended and flexible approaches to student learning with an emphasis on applying skills in a workplace context.  Preferred training methods includes face to face theory and practical demonstrations incorporating an application of skills and knowledge.  In terms of assessment, this industry representative preferred a range of assessment methods including TAFE NSW simulated engineering workshop, industry-based observation, and project based skills theory exam and practical demonstration. The ITAB was against final assessment being ‘open book’ with the candidate needing to be independent of support materials.  Unit selection in the training and assessment strategy was generally endorsed as relevant. However, the unit MEM05012 Perform routine manual metal arc welding should be selected based on the workplace.  Additional feedback includes the need for candidates to have foundational knowledge including reading and following instructions, adherence to workplace requirements regarding the use of personal protective equipment and reducing waste during manufacture. Additionally, the ITAB stated that students need to be made aware of different levels of manufacturing technology in industry including automation and manual manufacturing methods.   * MEM18001 - Use hand tools; MEM18002 - Use power tools/hand-held operations * MEM05012 Perform routine manual metal arc welding * MEM07032 Use workshop machines for basic operations * different types of automation available in industry * different types of basic machines used in industry * lean thinking to minimise waste   **Action/s**  TAFE NSW to consider the inclusion of specific levels of technology equipment (manual/automated) in teaching resources.  Delivery of this qualification does not currently include a workplace component. Training is planned for delivery in a TAFE NSW simulated engineering workshop.  TAFE NSW TAFE NSW will ensure that the learning and assessment resources for units delivered within MEM10119 will meet the requirements within each unit of competency, |

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 I 600-1200 hours

The **Total Amount of Training Hours** for this product is: 175

The **Total Amount of Assessment Hours** for this Product is: 14.5

The Total Estimated **Unstructured Learning Hours** for this product are: 18

The **Total Volume of Learning** for this product is: 193

### 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** | **Blended Delivery** (including face to face and online classes) | Face-to-face or online lectures/ learning activities  Workshop/ practical tasks | 160.5 hours |  |  | 160.5 hours |
| **2** | **Assessments** | Knowledge and skills |  | 14.5 hours |  | 14.5 hours |
| **3** | **Self-directed** | Content review  Assessment preparation 2 hours per week |  |  | 18 hours | 18 hours |
| **5** | **Total** |  | **160.5** | **14.5** | **18** | **193 hours** |

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

**Student cohort**

Students enrolled in this qualification are generally workers entering employment as engineering/manufacturing employees within the metal, engineering, manufacturing and associated industries.

**Elective choice**

Based on consultation with industry and across TAFE NSW. Electives have been selected to provide students with the skills and knowledge that will enable them to perform basic practical workshop tasks and basic welding skills. These skills can be applied across a broad range of general engineering work, throughout a range of engineering industries.

**Delivery and Assessment**

Delivered is over nine weeks. Students attend TAFE three days per week for 8 weeks and two days for week 9. Delivery is as follows:

Week 1 to week 8 = 20 hours per week @ 2 x 8 hours days and 1 x 4 hour day

Week 9 = 15 hours @ 1 x 8 hour day and 1 x 7 hour day

Two units of competency are clustered for delivery where they have common performance criteria and align to the application of skills and knowledge in the workplace. This is outlined in 4.3 below.

Many units of competency in this Training Product have pre-requisite units. These units have been considered in the sequenced delivery strategy. The pre requisite units may be delivered in conjunction with other units, though they will be required to be assessed prior to assessing the unit of competency they are a pre requisite for.

**Volume of Learning:**

The total Volume of Learning for this training product is 193 hours, comprised of 160.5 hours of structured learning in a face to face delivery mode, 14.5 hours of assessment and 18 hours of unstructured learning. Students will participate in 20 hours per week of training and assessment that will encompass structured practical tasks and activities within the TAFE simulated engineering workshop. NCVER nominal hours for the units contained within this qualification are listed at 155 to 190 hours and further justify the supervised hours for this training and assessment strategy.

**Delivery includes:**

Face to face (synchronous) delivery supervised by a facilitator e.g. classes and tutorials. Also includes practical workshop learning activities. All learning activities completed by whole class, in small groups and individually at various points.

Online/blended: Completing online activities supported by facilitator face to face tutorials

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 9 weeks.

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 engineering workshop.

Skills assessments will include direct observation of tasks in the simulated engineering 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 will include evidence from their time in practical hands on workshop (TAFE NSW Campus Engineering workshop) This meets the requirement for this Training Product to ideally include evidence of the candidate's performance in a productive live work environment in particular Units of Competency – these are MEM05012, MEM07032

**Student Support:**

The student will receive a work plan outlining skills required at agreed timelines.

Support is also provided via fluid communication with teaching staff including ESOs and added sessions as appropriate. The aligned TAFE trainer/assessor will provide support in delivery and assessment of this qualification as required.

**4.3 Delivery type**

Below are details of the units which are clustered for delivery:

Table 8 Clustered Delivery Details

|  | **Cluster Name** | **Units** | **Training** | **Assessment** | **Details** |
| --- | --- | --- | --- | --- | --- |
| **1** | Hand/power tools | MEM18001  MEM18002 | Yes | Skills Assessment Only | The unit outcomes have common operations that are performed in the workplace. The unit requirements also have common criteria listed in the unit performance criteria |

### 4.4 Assessment

*Table 9* 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 9 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** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | MEM13015 – Work safely and effectively in manufacturing and engineering | Stand Alone | Blended | **T = 47**  **A = 3** |  | Sk -50% , Kn-50% |  |
| **2** | MEM16006 – Organise and communicate information  ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering | Stand Alone | Blended | **T = 14**  **A = 1** |  | Sk -50% , Kn-50% |  |
| **3** | MEM11011 – Undertake manual handling  ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Stand Alone | Blended | **T = 14**  **A = 1** |  | Sk -50% , Kn-50% |  |
| **4** | MEM12023 – Perform engineering measurements  ***MEM R2 Prerequisites:***  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Stand Alone | Blended | **T = 22.5**  **A = 2.5** |  | Sk -50% , Kn-50% |  |
| **5** | MEM18001 – Use hand tools  ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Cluster | Blended | **T = 27**  **A = 3**  **(incorporated above within MEM18001)** |  | Sk -50% , Kn-50% |  |
| **6** | MEM18002 – Use power tools/hand held operations  ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Cluster | Blended |  | Sk -50% , Kn-50% |  |
| **7** | MEM05012 – Perform routine manual metal arc welding  ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information | Stand Alone | Blended | **T = 18**  **A = 2** |  | Sk -50% , Kn-50% |  |
| **8** | MEM07032 – Use workshop machines for basic operations  ***MEM R2 Prerequisites:***  MEM11011 Undertake manual handling  MEM13015 Work safely and effectively in manufacturing and engineering  MEM16006 Organise and communicate information  MEM18001 Use hand tools | Stand Alone | Blended | **T = 18**  **A = 2** |  | Sk -50% , Kn-50% |  |
|  |  |  |  | **T: 160.5**  **A: 14.5** |  |  |  |

5. Master TAS Approval

**Product Manager**

Name: **dwilliams75 (Dean.Williams@tafensw.edu.au)**

Signature: Approval was given electronically in LAMS (see request 4339):

<https://live.nei.tafensw.edu.au/DATA2/Site/Approvals/step2.aspx?request_id=4339>

Date: 13/02/2020, 04:16 PM

**Senior Manager, Product Development Support**

Name: N/A

Signature: N/A

Date: N/A

**Head of SkillsPoint**

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

Signature: Approval was given electronically in LAMS (see request 4339):

<https://live.nei.tafensw.edu.au/DATA2/Site/Approvals/step2.aspx?request_id=4339>

Date: 14/02/2020, 12:20 PM

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: