

**Industry Curriculum Information Guide**

**Metal and Engineering**

**MEM10105 Certificate I in Engineering**

**MEM20105 Certificate II in Engineering (School-based Trainees Only)**

**NESA Course:** [**Metal and Engineering (Stage 6)**](http://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/vet/metal-and-engineering-syllabus)









# Introduction

Vocational education and training (VET) courses form an integral part of the Higher School Certificate (HSC). It is widely recognised that these courses perform a significant role in preparing students for a successful transition from school to work. Schools have ensured through sustained commitment that HSC VET is valued by industry, further education and the community.

The continuation of these high quality vocational education opportunities for students in Catholic schools is dependent on the successful implementation of the [**VET Quality Framework**](http://www.asqa.gov.au/about-asqa/national-vet-regulation/vet-quality-framework.html)which includes the [**Standards for Registered Training Organisations 2015.**](http://www.comlaw.gov.au/Details/F2014L01377)

The VET Quality Framework is aimed at achieving greater national consistency in the way providers are registered and monitored and in how standards in the vocational education and training (VET) sector are enforced.

This guide contains information that is essential to ensuring the delivery of high quality VET in the Higher School Certificate. Through the implementation of quality assurance requirements in this guide, schools will ensure that they are implementing education and training that is valued and recognised by industry and complies with the VET Quality Framework.

## Using the Information Guide

Schools delivering units of competency in Metal and Engineering courses must have access to specific resources/equipment for delivery and assessment of the qualification. Students must have sufficient access to the specified resources/equipment to enable them to acquire and demonstrate competency.

The resources/equipment listed for each unit of competency are required to deliver and assess that unit.

Resources/equipment may be accessible either on-site (at school) or off-site (including while the student is on work placement). Where access to resources/equipment is off site a suitable access arrangement must be documented and recorded in [Checklist](#_bookmark2) 2 in this document.

Where relevant, the range statement in a unit of competency contains a complete list of resources and equipment required to be addressed in student learning. The actual resources and equipment which **must be used and assessed against** are set out in the critical aspects of evidence in each unit.

*All resources/equipment selected MUST*:

* comply with RTO policy and procedures
* be appropriate to the unit of competency being assessed and the circumstances of the assessment.

***All resources/equipment lists are to be read in conjunction with***

* ***The*** [*Metal and Engineering Training Package (MEM05 V11.1)*](http://training.gov.au/Training/Details/MEM05)

***Please note that links directly to*** [***National Register of VET***](http://training.gov.au/Home/Tga) ***(TGA) have been provided for ALL units of competency in this guide for quick and easy reference for schools, as well as bookmarks within the document related to the specific assessment environments.***

* Board of Studies teaching and Educational Standards NSW [Metal and Engineering Curriculum Framework Syllabus](http://www.boardofstudies.nsw.edu.au/syllabus_hsc/metal-engineering.html)

# Requirements of schools delivering competency based training and assessment

### Use of accredited trainers and assessors

All trainers and assessors used by the RTO must comply with the requirements of Clauses 1.13 - 1.16 of the Standards for Registered Training Organisations (RTOs) 2015. To meet this requirement schools must ensure training is only be delivered by teachers who are accredited to deliver the course or whose accreditation is in progress.

Trainers must have

* the vocational competencies at least to the level being delivered and assessed;
* current industry skills directly relevant to the training and assessment being provided; and
* current knowledge and skills in vocational training and learning that informs their training and assessment

Assessment must be undertaken only by teachers who have completed their accreditation and have gained

* TAE40110 Certificate IV in Training and Assessment
* TAE40116 Cert IV in Training and Assessment (from April 2019)

All trainers and assessors must:

* regularly undertake professional development in the fields of the knowledge and practice of vocational training, learning and assessment including competency based training and assessment

Schools must ensure the professional development plans of VET teachers address these requirements.

# Assessment environment, equipment and resources

Context of and specific resources for assessment have been determined on a unit of competency basis. The aspects of context may include:

* Environments – **where the unit** must **be assessed**
* **Equipment –** what equipment must be used
* **Workplace documentation –** what types of workplace resources and documents **must** be available
* Interaction with customers, team members and other people – who **must** be involved.

Contextualised requirements are often prescribed in the “Context of and specific resources” section of each unit of competency. It is not, however, always possible to provide extensive lists of equipment at unit level.

## MEM05 Assessment Advice

It is important that assessors are familiar with the use of the Metal and Engineering Competency Standards and the agreed industrial processes for their implementation in workplaces. Manufacturing Skills Australia can provide a list of approved organisations that provide an Implementing Competency Standards Program that will assist assessors.

## Advice on integrated assessment

The Metal and Engineering Training Package is comprised of units of competency that will rarely be used in isolation. All units will form part of a person's job role. No single unit of competency can be acquired in isolation and therefore opportunities for integrated learning and assessment activities should always be explored. Careful consideration of the profile of competencies will identify groups of units where integrated assessment (or co-assessment) can be applied.

Adoption of integrated assessment can provide significant savings in time, cost and effort of assessors and candidates. Assessment tools should be designed so that assessment evidence can be gathered for a group of units and the outcomes identified with those units. This approach can be quite adequately used to also deal with prerequisites.

## Advice on assessment of Prerequisite Units

The Metal and Engineering Training Package units of competency are built on a structure of accumulated skills and knowledge. This means that there are hierarchies of skills and knowledge that are built up from a range of competencies. Any units of competency that underpin others are listed as prerequisites.

The use of the term 'prerequisite' has been used for many years in the Metal and Engineering units of competency. In terms of training delivery and assessment, the term 'prerequisite' means that a person cannot be deemed 'competent' in the higher level unit until they are deemed competent in the prerequisite units. An RTO may choose an integrated assessment approach (see above). In this case the actual assessment of prerequisites may occur concurrently with other units.

## MEM05 Licensing requirements

Specific licenses may be required in some jobs. The local regulations should be checked for details. The industry is generally subject to a range of regulatory control. These vary with the nature of the work and to some extent on its location as most regulations are State based and some are enforced by local government. This Training Package allows for these differences without mandating them to specific units of competency which would not be appropriate.

Selected units of competency and qualifications in this Training Package have been designed to satisfy or partly satisfy the licensing requirements of various industry sectors.

This Metal and Engineering Training Package publication provides advisory information based on discussions with representatives of industry and regulators. All possible care has been taken in the preparation of this material, however, persons should not rely solely on this publication on matters involving industry specific current or proposed licensing requirements or arrangements.

## Contextualisation of Units of Competency by RTOs

Registered Training Organisation (RTOs) may contextualise units of competency to reflect local outcomes required. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.

Any contextualisation of units of competency in this endorsed Training Package must be within the bounds of the following advice. In contextualising units of competency, RTOs:

* must not remove or add to the number and content of elements and performance criteria
* may add specific industry terminology to performance criteria where this does not distort or narrow the competency outcomes
* may make amendments and additions to the range statement as long as such changes do not diminish the breadth of application of the competency and reduce its portability, and/or
* may add detail to the evidence guide in areas such as the critical aspects of evidence or resources and infrastructure required where these expand the breadth of the competency but do not limit its use.

# Resources, Equipment & Assessment Information

* ***MEM10105 Certificate I in Engineering and***
* ***MEM20105 Certificate II in Engineering***

## Core units of competency for the qualification

*(Units of competency held by teachers that have undertaken the current VET Teacher Training Program)*

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| [**MEM13014A Apply principles of occupational health and safety in the work**](http://training.gov.au/Training/Details/MEM13014A)[**environment**](http://training.gov.au/Training/Details/MEM13014A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used*** where the range of conditions ***reflects realistic workplace situations***.The competencies covered by this unit would be demonstrated by ***an individual working alone or as part of a team***. The assessment environment should not disadvantage the candidate. |
| **Equipment:**Personal protective equipment* Safety glasses
* Face and head protection
* Hard hats
* Protective footwear
* Protective clothing
* Breathing apparatus
* Ear protection
* Gloves

Safety equipment and devices* Safety harness
* Screens, barriers and shielding
* Extraction fans
* Machine guards
* Isolation devices
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| [**MEM13014A Apply principles of occupational health and safety in the work**](http://training.gov.au/Training/Details/MEM13014A)[**environment**](http://training.gov.au/Training/Details/MEM13014A) **(continued)** |
| Safety signs/symbols* Standard signage/symbols conforming to AS 1319-1994
* Safety signs for the occupational environment, and any other applicable Australian Standards
* Workplace-specific signage
* Typical classes of relevant signs/symbols are:
* mandatory
* prohibition
* danger
* caution
* general safety
* safety information
* fire safety equipment
 |
| **Workplace documentation:*** emergency and evacuation procedures
* documented workplace emergency procedures
* hazards and housekeeping requirements associated with the work environment
* safe work practices and procedures
* procedures for identifying and reporting hazards
* procedures and limits for manual handling
 |
| **Interaction with customers, team members and other people:** Yes Appropriate personnel* Safety representative
* Occupational health and safety officer
* OHS committee member
* First aid officer
* Supervisor
* Union representative
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| [**MEM14004A Plan to undertake a routine task**](http://training.gov.au/Training/Details/MEM14004A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used*** where the range of conditions ***reflects realistic workplace situations***.The competencies covered by this unit would be demonstrated by an ***individual working alone or as part of a team***. The assessment environment should not disadvantage the candidate. |
| **Equipment:** N/A |
| **Workplace documentation:**Specifications* Specific product or process information, such as:
* outcome and performance requirements
* quality requirements and checks
* quantity
* Specifications are conveyed verbally or on familiar standard forms, such as on job sheets Requirements
* General requirements necessary to carry out routine tasks, such as:
* dedicated tools and equipment
* materials and parts
* work procedures
* completion time
* safety measures and equipment
* requirements and instructions are supplied verbally or on familiar standard forms, such as on job sheets.
* instructions are carried out under supervision and in accordance with established procedures
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| **Interaction with customers, team members and other people:** Yes* obtaining instructions for tasks from correct source of information (job card, supervisor, work colleagues and others)
* clarifying tasks and required outcomes with appropriate personnel where necessary
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| [**MEM15024A Apply quality procedures**](http://training.gov.au/Training/Details/MEM15024A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used*** where the range of conditions ***reflects realistic workplace situations***.The competencies covered by this unit would be demonstrated by an ***individual working alone or as part of a team***. The assessment environment should not disadvantage the candidate. |
| **Equipment:** N/A |
| **Workplace documentation:*** concepts of quality and the benefits of using specifications and standard operating procedures
* quality procedures applying to own work
* standard operating procedures
* safe work practices and procedures
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| **Interaction with customers, team members and other people:*** identifying and communicating instances of non-compliance to work specifications
* following quality procedures including work instructions
* conforming to product and process specifications
* checking and clarifying task-related information
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| [**MEM16007A Work with others in a manufacturing, engineering or related environment**](http://training.gov.au/Training/Details/MEM16007A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be*** used where the range of conditions ***reflects realistic workplace situations***.The competencies covered by this unit would be demonstrated by an ***individual working alone or as part of a team***. The assessment environment should not disadvantage the candidate. |
| **Equipment:** N/A |
| **Workplace documentation:*** hazards and control measures associated with workplace activities, including housekeeping
* safe work practices and procedures
* relationships and roles within immediate group and with interdependent others
* reporting relationships and procedures
 |
| **Interaction with customers, team members and other people:**Effective interpersonal skillsBasic listening and speaking skills, use of terminology and jargon, giving and receiving feedback, interpreting instructions, verbal and non-verbal modes and methods of communication, communication breakdowns and barriers, basic principles of effective communication |

## Elective Units of Competency for the Qualifications

Assessment of these units requires that the candidate have access to all tools, equipment, materials and documentation indicated below. The content and resource requirements of all units of competency in the elective units are available in the MEM05 V11.0 Metal & Engineering Training Package at [www.training.gov.au](http://www.training.gov.au/).

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| [**MEM12023A Perform engineering measurements**](http://training.gov.au/Training/Details/MEM12023A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts**.** |
| **Environment:**This unit may be ***assessed on the job, off the job or a combination of both on and off the job***. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used*** where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.This unit covers straightforward measurement using devices which incorporate visual indications representing units of measurement.It applies to the use of measuring devices in a range of manufacturing, engineering and related environments. It includes, where required, adjustment of measuring devices through simple means and typically includes zeroing or scale adjustment.Measurements may be expressed in metric or imperial units. All measurements are undertaken to standard operating procedures. Electrical/electronic devices used are those not requiring the connection or disconnection of circuitry.Work is undertaken ***autonomously or part of team environment***, in the field, work station or workshops. |
| **Equipment:**Specifications* drawings
* sketches,
* job instructions,
* schematics,
* diagrams,
* technical manuals Range of measuring devices
* protractors
* combination squares
* set squares
* dial indicators
* thermometers
* tapes
* rules
* micrometers
* vernier scaled measuring equipment
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| [**MEM12023A Perform engineering measurements**](http://training.gov.au/Training/Details/MEM12023A) **(continued)** |
| **Workplace documentation:**Basic calculations* calculations needed to assist in determining measurements where a reading of the graduated device is not sufficient, for example subtracting one measurement from another to give a third measurement. Examples of calculations needed are addition, subtraction, multiplication, division, fractions and decimals. Calculations may be made using a calculator

Routine adjustments* validating the device using simple zeroing or scale adjustment Measurements
* measuring length
* squareness
* flatness,
* angle,
* roundness
* clearances or any other measurements that can be read off analog, digital or other measuring device Information
* Dimensions
* instructions,
* base line or datum points
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| **Interaction with customers, team members and other people:** No |

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| [**MEM12024A Perform computations**](http://training.gov.au/Training/Details/MEM12024A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate ***simulation must be used where the range of conditions reflects realistic workplace situations***. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing computations or other units requiring the exercise of the skills and knowledge covered by this unit. |
| **Equipment:**Calculations may be performed using pen and paper or on a calculator**.** |
| **Workplace documentation: Relevant sources*** Charts, graphs, diagrams, measurement data, reference manuals and specifications

**Application**Applications can include computations associated with pressure, volume, temperature, heat, speed, power, elasticity, density, mass, force etc.**Arithmetic operations*** Application of subtraction, addition, multiplication and division
* Manipulation of decimals, fractions and mixed numbers and whole numbers
* Determining of percentages
* Performing of algebraic expressions
* Calculation of proportions and ratios

**Charts and graphs*** Simple histograms, control charts, pie charts etc.
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| **Interaction with customers, team members and other people:** N/A |

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| [**MEM15002A Apply quality systems**](http://training.gov.au/Training/Details/MEM15002A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.This unit is applicable for any work within a quality improvement system in a manufacturing, engineering or related environment. The definition of customer is wide and applies to the next person or organisation receiving the product or service. Application may include ***quality inspection of own or other employee's work up to the level of the employee's technical competence.*** |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate ***simulation must be used where the range of conditions reflects realistic workplace situations***. The competencies covered by this unit would be ***demonstrated by an individual working alone or as part of a team.*** The assessment environment should not disadvantage the candidate.This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with applying quality systems or other units requiring the exercise of the skills and knowledge covered by this unit. |
| **Equipment:*** job sheets, instructions, standard operating procedures and drawings
* inspecting and testing products and services
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| **Workplace documentation: Quality improvement system*** a system comprising some or all of the following elements:
* quality assurance
* quality control
* quality inspection
* quality improvement
* total quality control

**Customer*** The next person or organisation receiving the production or service

**Interaction with customers, team members and other people:** Yes.* examples of ways in which customer/supplier relationships can be improved
* benefits of good customer/supplier relationship
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| [**MEM18001C Use hand tools**](http://training.gov.au/Training/Details/MEM18001C) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***Applications may include hand tools used for adjusting, dismantling, assembling and finishing of items or components, and the finishing, cutting, scraping of metallic and non-metallic material to size and shape. This includes simple tapping and threading and routine maintenance of hand tools.This unit ***should not be*** selected if the hand tool is dedicated to a single operation or machine and if only a machine specific/customised tool is used. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate ***simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be ***demonstrated by an individual working alone or as part of a team.*** The assessment environment should not disadvantage the candidate. |
| **Equipment: Hand tools*** hacksaws
* hammers
* punches
* screwdrivers
* sockets
* wrenches
* scrapers
* chisels
* gouges
* wood planes
* files of all cross-sectional shapes and types

**Job specifications*** finish
* tension
* size or shape etc.

**Routine maintenance**Cleaning, lubricating, tightening, simple tool repairs, hand sharpening and adjustments using engineering principles, tools, equipment and procedures |
| **Workplace documentation:*** procedures for marking unsafe or faulty tools for repair
* routine maintenance requirements for a range of hand tools
* storage location and procedures for a range of hand tools
* hazards and control measures associated with using hand tools
* use and application of personal protective equipment
* safe work practices and procedures
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| **Interaction with customers, team members and other people:** Yes.* following verbal instructions
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| [**MEM18002B Use power tools/hand held operations**](http://training.gov.au/Training/Details/MEM18002B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment: Power tools*** electric or pneumatic/hydraulic drills
* grinders
* jigsaws
* nibblers
* cutting saws
* sanders
* planers
* routers
* pedestal drills and pedestal grinders

**Clamping*** multigrips
* vices
* jigs and fixtures
* clamps etc.

**Job specifications*** finish, size or shape etc.

**Operational maintenance*** Hand sharpening, cleaning, lubricating, tightening
* Simple tool repairs and adjustments using engineering principles, tools, equipment and procedures to statutory and regulatory requirements
 |
| **Workplace documentation:*** procedures for marking unsafe or faulty power tools for repair
* routine maintenance requirements of a range of power tools
* tool sharpening techniques for a range of power tools
* storage location and procedures of a range of power tools
* hazards/control measures associated with power tools
* use and application of personal protective equipment
* safe work practices and procedures
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| **Interaction with customers, team members and other people:** Yes.* following verbal instructions
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| [**MEM05050 Perform routine gas metal arc welding**](http://training.gov.au/Training/Details/MEM05050B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be ***demonstrated by an individual working alone or as part of a team.*** The assessment environment should not disadvantage the candidate.This unit applies in a maintenance or manufacturing environment where the weld quality is not required to meet an Australian Standard or equivalent. Fillet and butt welds would typically be performed on low carbon/mild steels.Where welding is required to meet Australian Standard 1554 General Purpose or equivalent codes, occupational health and safety regulations and/or licensing requirements, Unit MEM05017D (Weld using gas metal arc welding process) should be selected. |
| **Equipment: Materials*** Mild and low carbon steel

**Prepared*** Preheating, setting up jigs, fixtures, clamps, joint preparation

**Equipment*** Hoses, welding leads, gas shrouds, gas regulators, liners, contact tips

**Consumables*** Filler wire, shielding gas

**Cleaned*** Slag and spatter
 |
| **Workplace documentation:*** different current and voltage settings, gas flow rates wire diameters, wire feed speed and other variables to suit typical situations.
* material and equipment preparation
* properties and characteristics of materials and consumables
* equipment and equipment settings
* fuel gas properties and applications
* post-welding treatments
* weld characteristics
* safe welding practices
* use and application of personal protective equipment for routine GMAW
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| **Interaction with customers, team members and other people:** Yes.* following oral instruction
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| **MEM03001B Perform manual production assembly** |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing manual production assembly or other units requiring the exercise of the skills and knowledge covered by this unit. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment: Components/subassemblies*** parts that make up the sub-assembly and components

**Tested/checked*** carried out according to specification of assembled product
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| **Workplace documentation: Recorded/input*** by means of production schedules, job sheets, checklists
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| **Interaction with customers, team members and other people: Yes*** following oral instruction
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| [**MEM05003B Perform soft soldering**](http://training.gov.au/Training/Details/MEM05003B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.All work is undertaken to predetermined standards of quality, safety and procedures.Techniques of applying soft solder may include the use of soldering irons (all types) and direct flame or other heating devices. Preparation of materials includes cleaning, deburring, twisting of conductors and fluxing.Depending on the actual soldering job, hand and power tools and drawing and interpretation skills may be required. These are covered by units MEM18001C (Use hand tools), MEM18002B (Use power tools/hand held operations) and MEM12023A (Perform engineering measurements).This unit should not be selected if Unit MEM05001B (Perform manual soldering/desoldering - electrical/electronic components) or Unit MEM10002B (Terminate and connect electrical wiring) has already been selected. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment: Tools*** soldering irons (all types) and direct flame or other heating devices

**Materials*** ferrous and non-ferrous
 |
| **Workplace documentation:*** the effect of material to be soft soldered on the selection of consumables
* the reasons for preparing surfaces prior to soldering
* the procedures for rectifying defects in soldered joints
* use and application of personal protective equipment for soft soldering
* safe work practices and procedures
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| **Interaction with customers, team members and other people:** Yes.* following oral instruction
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| [**MEM05004C Perform routine oxy acetylene welding**](http://training.gov.au/Training/Details/MEM05004C) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***This unit applies in a maintenance or manufacturing environment where the welding is not required to meet an Australian standard or equivalent. Fillet and butt welds would typically be performed on low carbon/mild steels.Where welding is required to meet Australian Standard 1554 General Purpose or equivalent codes, OHS regulations and/or licensing requirements, Unit MEM05022C (Perform advanced welding using oxy acetylene process) should be selected. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **EquipmentMaterials*** Mild and low carbon steel and cast iron

**Prepared*** Preheating, setting up jigs, fixtures, clamps, joint preparation

**Equipment*** Hoses, blowpipes, regulators

**Consumables*** Filler rods, fluxes

**Oxy acetylene*** The term 'oxy-acetylene' is used here to describe a range of fuel gases, including acetylene, LPG, hydrogen etc.

**Cleaned*** Fluxes
 |
| **Workplace documentation:*** preparatory requirements
* materials and consumables properties and characteristics
* equipment and equipment settings
* fuel gas properties and applications
* post welding treatments
* weld characteristics
* any applicable industry standards, NOHSC guides, State/Territory regulatory codes of practice/standards
* safe work practices and procedures
* safe welding practices
* use and application of personal protective equipment for routine oxy acetylene welding
 |
| **Interaction with customers, team members and other people:** Yes.* following oral instructions
 |

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| --- |
| [**MEM05005B Carry out mechanical cutting**](http://training.gov.au/Training/Details/MEM05005B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***This unit applies to sawing, shearing, cropping and/or holing and includes setting up and operating a range of equipment. Examples of machines that could be covered include guillotines, croppers, cold saws, band saws, automatic saws etc.Typical applications of this unit may include cutting for manufacture, production cutting and cutting of materials selected from stores in a maintenance environment.This unit does not cover hand or hand held power tools used for cutting e.g. circular saws, nibblers and side grinder. These skills are covered by Unit MEM18001C (Use hand tools) and Unit MEM18002B (Use power tools/hand held operations).This unit does not include the skills required for operational maintenance of the equipment used; these skills are covered by Unit MEM07001B (Perform operational maintenance of machines/equipment).For repair and welding of band saw blades where blade repair unit is not attached to the machine, refer to Unit MEM05013C (Perform manual production welding). |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations***. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **EquipmentMachine*** guillotines, croppers, cold saws, band saws, automatic saws etc.

**Tooling*** tooling to suit guillotines, croppers, cold saws, band saws, automatic saws etc.

**Stops and guards*** all safety equipment/stops/guards on guillotines, croppers, cold saws, band saws, automatic saws etc.

**Material*** ferrous and non-ferrous metals and non-metallic products
 |
| **Workplace documentation: Codes and standards*** Legislative and regulatory requirements, industry and enterprise codes and standards
* the characteristics of cutting methods and machines
* effect of materials on the machine tooling, tooling defects and adjustments
* effect of adjustments on the dimensions of the cut material
* applicable tolerances
* methods of marking out materials to ensure minimum wastage
* any applicable industry standards, national/Australian standards, NOHSC guides, State/Territory regulatory code of practice/standard
* use and application of personal protective equipment for mechanical cutting
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes.* following oral instruction
 |

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| --- |
| [**MEM05006C Perform brazing and/or silver soldering**](http://training.gov.au/Training/Details/MEM05006C) |
| ***Pre requisite unit:*** *No.* |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***This unit applies to silver soldering and brazing using all grades of silver solder and braze. It also includes soldering of copper and refrigeration work. Work includes the preparation of materials and equipment and the inspection of the completed work.Work is ***undertaken in a production or maintenance environment*** using predetermined standards of quality, safety and work procedures. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, then appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate**.** |
| **Equipment: Materials*** ferrous and non-ferrous

**Heating*** oxy acetylene and fuel gas, cylinders, connections, hoses, tips and nozzles

**Consumables*** fluxes (resin or powder), all types of silver solder and brazing grades, etc.

**Process*** brazing, braze welding and silver soldering
 |
| **Workplace documentation:*** the procedures for minimising distortion of the materials being brazed/braze welded/silver soldered
* the procedures for assembling and setting up the specific heating equipment
* the procedures and precautions for preheating the materials to be joined
* the procedures for normalising the temperature of jointed materials
* the procedures for removing excess jointing material
* the procedures for inspecting brazed/braze welded/silver soldered joints
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes.* following oral instructions
 |

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| [**MEM05007C Perform manual heating and thermal cutting**](http://training.gov.au/Training/Details/MEM05007C) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of ***applying the competency in new and different situations and contexts.***This unit applies to manual, straight line cutting standards. Manual or automatic processes are used to cut and heat to specifications. Cutting may include flame gouging by hand. All work is carried out to legislative and regulatory requirements. Predetermined standards of quality and safety are observed and work is carried out following standard operating procedures. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations***. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **EquipmentCutting*** use of hand held and self-propelled straight line cutters

**Process*** fuel gas, oxy fuel gas and air fuel gas

**Material*** various thicknesses and types including ferrous, non-ferrous and non-metallic materials
 |
| **Workplace documentation:*** assembling procedures for equipment and accessories
* procedures for adjusting heating and cutting equipment
* procedures for minimising waste material
* procedures for correcting cutting defects
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes.* following oral instructions
 |

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| --- |
| [**MEM05012C Perform routine manual arc welding**](http://training.gov.au/Training/Details/MEM05012C) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.*** |
| **Environment:**This unit ***may be assessed on the job, off the job or a combination of both***. Where assessment occurs off the job, i.e. the candidate is not in productive work***, then appropriate simulation must be used where the range of conditions reflects realistic workplace situations***. The competencies covered would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing routine manual metal arc welding or other units requiring the exercise of the skills and knowledge covered by this unit. |
| **Equipment: Materials*** Low and mild carbon steel or similar

**Prepared*** Cleaning, setting up jigs, fixtures, clamps, joint preparation

**Welding equipment*** Welding leads, welding machines, electrode holder etc.

**Cleaned*** Slag and spatter, cleaning, using files and grinders
 |
| **Workplace documentation:*** reading and interpreting routine information on written job instructions, specifications and standard operating procedures
* MMAW processes and properties
 |
| **Interaction with customers, team members and other people:** Yes* following oral instructions
 |

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| [**MEM07032B Use workshop machines for basic operations**](http://training.gov.au/Training/Details/MEM07032B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of ***applying the competency in new and different situations and contexts.***The unit applies to machines that include but are not limited to lathe, radial arm drill, mills etc., and covers the sharpening of tools as required.This **unit should not be selected** when Unit MEM07005C (Perform general machining) or Unit MEM07024B (Operate and monitor machine/process) have already been selected.For hand held/power tools use Unit MEM18002B (Use power tools/hand held operations). |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment: Machines*** lathe, radial arm drill, mill etc.

**Cutting tools*** lathe tools, milling cutters, drills etc.

**Materials*** ferrous and non ferrous

**Clamping device*** chucks, vices, clamps, bars and packing etc.
 |
| **Workplace documentation:*** procedures for operating workshop machines
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** N/A |

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| --- |
| [**MEM11011B Undertake manual handling**](http://training.gov.au/Training/Details/MEM11011B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of ***applying the competency in new and different situations and contexts.***This unit applies to lifting and moving materials manually and/or using basic manual handling equipment in a wide range of environments.Maximum manual lifting weight is limited to National Occupational Health and Safety Commission (NOHSC) recommendations. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment: Material weight*** material weight is determined using scales or interpreting signage

**Lifting techniques*** individual or team lifting, use of appropriate lifting equipment

**Appropriate equipment*** hand trolleys, wheelbarrows, motorised/hand pallet trucks (not sit on), scissor lifts, boom lifts, hand carts, dedicated production or process lifting equipment such as baskets, spreader bars, cradles or the like attached to lifting equipment
 |
| **Workplace documentation:*** hazards of incorrect procedures
* NOHSC standards for manual handling
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people: Yes.*** following oral instructions
 |

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| [**MEM12001B Use comparison and basic measuring devices**](http://training.gov.au/Training/Details/MEM12001B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***Measurements are conducted in a production environment or at a work station.Work is undertaken autonomously or as part of teamwork. All comparative measurements are undertaken to standard operating procedures and to regulatory and legislative requirements. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment:****Basic measuring devices*** linear measuring devices measuring to within 1mm graduation - may include rules, tapes and retractable tapes

**Comparisons*** comparison of length, angle, size, temperature, pressure, weight, voltage, resistance and amperage

**Comparison measuring devices*** go/no-go devices, thread angle and taper gauges, temperature gauges, pressure gauges, measuring gauges and overlay indicators, templates, digital devices and pre-set verniers and micrometers
 |
| **Workplace documentation:*** procedures for the correct use of devices
* procedures for maintaining and storing devices
* hazards and control measures associated with conducting measurements, including housekeeping
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes.* following oral instructions and written standard operating procedures
 |

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| [**MEM16005A Operate as a team member to conduct manufacturing, engineering or**](http://training.gov.au/Training/Details/MEM16005A)[**related activities**](http://training.gov.au/Training/Details/MEM16005A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***This unit applies to a range of team activities that are carried out within a section of a manufacturing, engineering or a related work environment.Activities are interdependent in nature, with each team member providing a critical component of the output. Effective interaction and collaboration between team members is required in order to achieve team goals. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment:*** operate in ***a work-based team environment***
 |
| **Workplace documentation:** **Team goals*** production or manufacturing output, deadlines and timelines, resource use, performance, mistake elimination targets, process improvements, maintenance activity, safety levels

**Effective interpersonal skills*** basic listening and speaking skills, use of terminology and jargon, giving and receiving feedback, interpreting instructions, verbal and non-verbal modes and methods of communication, communication breakdowns and barriers, basic principles of effective communication

**Formal and informal forms of communication*** meetings, documentation, updates, handover, signage, discussion, explanations, demonstration, electronic

**Diversity*** ethnicity, age, gender, demographics, disability

**Workplace terminology*** terminology - referring to equipment, processes, workplace areas, staff and procedures - specific to the processes and equipment used in the workplace
 |
| **Interaction with customers, team members and other people:** Yes.* communicating and cooperating with team members
* coordinating work effort with others
* applying effective interpersonal skills
 |

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| [**MEM16006A Organise and communicate information**](http://training.gov.au/Training/Details/MEM16006A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be ***capable of applying the competency in new and different situations and contexts.***This unit applies in manufacturing, engineering or related environments.It may include information related to production, maintenance or associated processes. Information may be drawn from a variety of sources.This unit includes the ability to communicate using common workplace terminology.For access and recording of data requiring system knowledge and judgement, see Unit MEM16008A (Interact with computing technology). |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an ***appropriate simulation must be used where the range of conditions reflects realistic workplace situations.*** The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment:*** operate in a ***work-based team environment***
 |
| **Workplace documentation: Range of sources*** job instructions, specifications, standard operating procedures, charts, lists, documents, computer data, drawings, sketches, tables, technical manuals and/or charts and other applicable reference material

**Workplace terminology*** terminology - referring to equipment, processes, workplace areas, staff and procedures - specific to the processes and equipment used in the workplace

**Analyse*** analysis for this unit involves simple determinations of relevance and implication for the employee's immediate work requirements

**Established workplace methods*** proforma reports
* data entry e.g. bar coding and simple keyboard operations
* verbal
* drawings
 |
| **Interaction with customers, team members and other people:** Yes.* checking and clarifying information
 |

|  |
| --- |
| [**MEM16008A Interact with computing technology**](http://training.gov.au/Training/Details/MEM16008A) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.This unit applies in manufacturing, engineering or related environments. It involves identifying the type and source of information required, and using the technology to access, input and store information. The equipment may include computers and a range of other equipment based on computing technology. |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment:** **Access procedures*** Logging on and security procedures, virus checks, start-up routines, application start-up

**Technology*** Hand held data recording devices, screen based equipment, personal computers, bar coders

**Applications*** Word processing spreadsheets and databases
* Customised engineering and manufacturing applications
* Material Resource Planning (MRP)
* Warehousing inventory applications
* Predictive reliability and maintenance applications
* Production data management applications

**Data output*** Report, email, chart, graph, printout, data transfer, labels
 |
| **Workplace documentation:*** hazards and control measures associated with using computing technology, including housekeeping
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes**.*** checking and clarifying task-related information
 |

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| --- |
| [**MEM09002B Interpret technical drawing**](http://training.gov.au/Training/Details/MEM09002B) |
| **Pre requisite unit:** No. |
| **Critical aspects for assessment and evidence required to demonstrate competency:**Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.Technical drawings may utilise perspective, exploded views or hidden view techniques. Drawings are provided to Australian Standard 1100 and/or Australian Standard 1102 and their equivalents from the full range of engineering disciplines.Standard symbols to Australian Standard 1100 and/or Australian Standard 1102 or equivalent are recognised in field of employment. Technical drawings may include symbol glossaries.Where any drawing, sketch, chart, diagram is only used as the technique for communication, then this unit does not apply: see Unit MEM12023A (perform engineering measurements) or Unit MEM16006A (Organise and communicate information). |
| **Environment:**This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate. |
| **Equipment:** |
| **Workplace documentation:****Interpret technical drawing*** AS1100.101 is an extensive work and the candidate is not required to have complete familiarity with all its contents, the application of AS1100 would usually be in line with standard operating procedures; interpretation may require guidance particularly in respect to any geometric tolerancing.
* hazard and control measures associated with interpreting technical drawings, including housekeeping
* safe work practices and procedures
 |
| **Interaction with customers, team members and other people:** Yes.* checking and clarifying task related information
 |

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| --- |
| **Quality Assurance Checklists****Metal and Engineering****MEM10105 Certificate I in Engineering****MEM20105 Certificate II in Engineering (for school based trainees only)** |

## The following checklists form part of the RTO’s quality assurance process as required under Standard 2 of the *Standards for Registered Training Organisations (RTOs) 2015*. This document is to be completed and filed securely at the school to comply with RTO requirements.

**Declaration by the school principal:**

The course is marketed to students in accordance with RTO course information and course delivery follows the RTO Training and Assessment Strategy approved for this school.



The school has a system for entering the intended qualification and units of competency on eBOS- VCS via Schools Online in accordance with the RTO’s Training and Assessment Strategy and the timeline advised by the Board of Studies Teaching and Educational Standards NSW (BOSTES).



The school has a process for collecting and verifying student USIs and uploading them to BOSTES.



Students have access to the resources, equipment and tools to meet the requirements for each unit of competency as per the list of competencies in [Checklist 1](#_bookmark0) and can be accessed onsite unless otherwise indicated on Checklist 2.



As part of the course enrolment process, students have completed the RTO’s course induction process and have been informed of the course assessment requirements.



All teachers timetabled to deliver this course are either accredited or in training as indicated on Checklist 3.



Mandatory Work Placement HSC requirements have been met completed in accordance with NESA requirements as identified in Checklist 4.



### School Site Sign Off

|  |  |
| --- | --- |
| **School Name** |  |
| **RTO Name** |  |
| **Person completing checklists** |  | **Signature** |  |
| **Principal Name** |  |
| **Principal Signature** |  | **Date** |  |

**Checklist 1 Resources/equipment**

On the following checklist, indicate the units of competency to be delivered to students as per the RTO Training and Assessment Strategy and complete the sign off indicating your satisfaction that all the specified resources and equipment can be accessed on site unless otherwise indicated on the separate form for this purpose [(Checklist 2).](#_bookmark3)

[MEM10105 Certificate I in Engineering](http://training.gov.au/Training/Details/MEM10105) or [MEM20105 Certificate II in Engineering](http://training.gov.au/Training/Details/MEM20105) (for school based trainees only)

|  |  |
| --- | --- |
| **Core units of competency** | ***Access on site All/Some/None*** |
|  | MEM13014A | Apply principles of occupational health and safety in the work environment |  |
|  | MEM14004A | Plan to undertake a routine task |  |
|  | MEM15024A | Apply quality procedures |  |
|  | MEM16007A | Work with others in a manufacturing, engineering or related environment |  |
|  | MEM15002A | Apply quality systems **^Core for MEM20105 only** |  |

|  |  |
| --- | --- |
| **Elective Units** | ***Access on site All/Some/None*** |
|  | MEM12023A | Perform engineering measurements |  |
|  | MEM12024A | Perform computations |  |
|  | MEM15002A | Apply quality systems ^Elective for MEM10105 only |  |
|  | MEM18001C | Use hand tools |  |
|  | MEM18002B | Use power tools/hand held operations |  |
|  | MEM03001B | Perform manual production assembly |  |
|  | MEM05050B | Perform routine gas metal arc welding |  |
|  | MEM05003B | Perform soft soldering |  |
|  | MEM05004C | Perform routine oxy acetylene welding |  |
|  | MEM05005B | Carry out mechanical cutting |  |
|  | MEM05006C | Perform brazing and/or silver soldering |  |
|  | MEM05007C | Perform manual heating and thermal cutting |  |
|  | MEM05012C | Perform routine manual arc welding |  |
|  | MEM07032B | Use workshop machines for basic operations |  |
|  | MEM11011B | Undertake manual handling |  |
|  | MEM12001B | Use comparison and basic measuring devices |  |
|  | MEM16005A | Operate as a team member to conduct manufacturing, engineering or related activities |  |
|  | MEM16006A | Organise and communicate information |  |
|  | MEM16008A | Interact with computing technology |  |
|  | MEM09002B | Interpret technical drawing |  |

## Checklist 2

**Accessing Tools, Equipment and Resources Off-Site (only if required)**

Identify the codes and units of competencies where tools, equipment and resources are being accessed off-site. Clearly identify the access arrangement supporting the use the tools, equipment and resources that are being accessed. The content and resource requirements of all units of competency in the elective units are available in the [MEM10105 Certificate I in Engineering](http://training.gov.au/Training/Details/MEM10105) or [MEM20105 Certificate II in Engineering](http://training.gov.au/Training/Details/MEM20105) (for school based trainees only) at [www.training.gov.au](http://www.training.gov.au/).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit code** | **Unit title** | **Tools, Equipment and Resources** | **Access Site** | **Access Arrangement** |
| e.g. SITHFAB204 | Prepare and serve espresso coffee | Point-of-sale system, including credit card and Electronic Funds Transfer at Point of Sale (EFTPOS) facilities Tables, chairs and customers in compliance with training package requirements for an operational F&B outlet | 1. Café Nosh Petersham
2. The Café Wests Ashfield Leagues Club Petersham TAFE College
 | AA2014/1 AA2014/3 AA2013/6 |
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## Checklist 3

**Trainer and Assessor Requirements**

To be timetabled onto a class, teachers must be:

* accredited with the relevant teaching code (“Willingness to teach” is not acceptable) or have been accepted into and undertaking the relevant VET retraining program;
* hold or be enrolled in the current Certificate IV in Training and Education
* able to demonstrate current industry skills directly relevant to the training and assessment being provided;
* able to demonstrate current knowledge and skills in vocational training and learning that informs their training and assessment.

Please complete the table below for any teacher who is timetabled onto this course at this site for the current year:

|  |  |
| --- | --- |
| **Teacher name** | **Accredited/ In-Training** |
|  |  |
|  |  |
|  |  |
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## Checklist 4

**Student work placement (Mandatory for the HSC)**

Securing the appropriate work placement for the particular qualification greatly depends upon the relationship between the school and Work Placement Service Providers.

It is the responsibility of the school to communicate the types of work placement settings they will require over a two year period for the students they are training and assessing.

Schools need to ensure that, where required, evidence from “the workplace” may be gathered for the qualification being sought.

Students have been fully informed of the:

Mandatory work placement hours required for this course Purposes of the work placement, and the







Due dates for completion of the work placement.

The school has procedures in place for the class teachers, work placement coordinators and workplace supervisors to reach agreement on the:

Structure and timing of the work placements Competencies to be addressed during work placements







Procedures to address the relevant workplace health and safety regulations.

The school has procedures in place to ensure that the:

*Workplace Learning Guide for Employers* has been provided to the host employer prior to placement commencing





*Student Placement Record* is fully completed **prior** to placement (i.e. signed by the host employer, school principal or nominee, student and parent or care giver) and archived according to Diocesan and/or school requirements.

## Checklist 5

**Additional Units included in the Training and Assessment Strategy approved for delivery at this site by the RTO.**

**Additional Units of Competency Held (only if required)**

Teachers wishing to deliver any units of competency (from the elective pool or specialisation study) that are not listed in [Checklist 1](#_bookmark1) must:

* + discuss the delivery of the unit(s) of competency with the RTO prior to delivery; and
	+ have achieved the unit(s) of competency and hold a transcript for the unit(s) of competency.

If delivery is supported by the RTO, provide a copy of the transcript for the unit(s) of competency to the RTO Manager to obtain additional accreditation and approval to deliver the requested unit(s) of competency.

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|  |  |  |
| --- | --- | --- |
| **Unit Code** | **Unit Name** | ***Access on site (All/Some/None)*** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |