

## MEM10105 Certificate I in Engineering

The minimum requirements for achievement of the Certificate I in Engineering are:

- completion of all of the Mandatory units of competency listed below, and
- completion of Specialisation units from the list below to the value of at least 24 points.

Points associated with prerequisites count towards the total. Note that up to 5 points value of units of competency may be drawn from other endorsed Training Packages where those units are available for inclusion at Certificate I. Only select units that would be suitable for occupational outcomes in a manufacturing, engineering or related environment.

### Additional qualification descriptors

There are no approved additional descriptors for this qualification.

### Mandatory units

- select all of the units from this list

| Unit code | Unit title   |
|-----------|--|
| 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    |

and

### Specialisation units

- select Specialisation units from this list to the value of at least 24 points, including any prerequisites.

| Unit code | Unit title  | P |
|-----------|---|---|
| MEM03001B | Perform manual production assembly                                      | 4 |
| MEM03002B | Perform precision assembly  | 4 |
| MEM03003B | Perform sheet and plate assembly  | 4 |
| MEM03004B | Perform electronic/electrical assembly (production)                     | 8 |
| MEM03006B | Set assembly stations   | 2 |
| MEM04004B | Prepare and mix sand for metal moulding                                 | 4 |
| MEM04008B | Fettle and trim metal castings/forgings                                 | 4 |
| MEM04018B | Perform general woodworking machine operations                          | 4 |
| MEM05001B | Perform manual soldering/desoldering – electrical/electronic components | 4 |
| MEM05003B | Perform soft soldering  | 2 |
| MEM05004C | Perform routine oxy acetylene welding                                   | 2 |
| MEM05005B | Carry out mechanical cutting  | 2 |
| MEM05006B | Perform brazing and/or silver soldering                                 | 2 |
| MEM05007C | Perform manual heating and thermal cutting                              | 2 |
| MEM05012C | Perform routine manual metal arc welding                                | 2 |

Qualifications

| Unit code | Unit title   | P |
|-----------|--|---|
| MEM05013C | Perform manual production welding  | 2 |
| MEM06001B | Perform hand forging   | 4 |
| MEM06007B | Perform basic incidental heat/quenching, tempering and annealing                     | 2 |
| MEM07001B | Perform operational maintenance of machines/equipment                                | 2 |
| MEM07003B | Perform machine setting (routine)  | 4 |
| MEM07024B | Operate and monitor machine/process  | 4 |
| MEM07028B | Operate computer controlled machines/processes                                       | 2 |
| MEM07029B | Perform routine sharpening/maintenance of production tools and cutters               | 4 |
| MEM07030C | Perform metal spinning lathe operations (basic)                                      | 8 |
| MEM07032B | Use workshop machines for basic operations   | 2 |
| MEM08001B | Perform wire, jig and barrel load/unload work  | 4 |
| MEM08002C | Pre-treat work for subsequent surface coating  | 4 |
| MEM08004B | Finish work using wet, dry and vapour deposition methods                             | 4 |
| MEM08009C | Make up solutions  | 2 |
| MEM08010B | Manually finish/polish materials   | 6 |
| MEM08011B | Prepare surfaces using solvents and/or mechanical means                              | 2 |
| MEM08012B | Prepare surfaces by abrasive blasting (basic)  | 4 |
| MEM08014B | Apply protective coatings (basic)  | 4 |
| MEM08016B | Control blast coating by-products, materials and emissions                           | 1 |
| MEM11005B | Pick and process order   | 4 |
| MEM11006B | Perform production packaging   | 2 |
| MEM11007B | Administer inventory procedures  | 4 |
| MEM11008B | Package materials (stores and warehouse)   | 2 |
| MEM11009B | Handle/move bulk fluids/gases  | 4 |
| MEM11011B | Undertake manual handling  | 2 |
| MEM11013B | Undertake warehouse receipt process  | 4 |
| MEM11016B | Order materials  | 2 |
| MEM12001B | Use comparison and basic measuring devices   | 2 |
| MEM12002B | Perform electrical/electronic measurement  | 2 |
| MEM12023A | Perform engineering measurements   | 5 |
| MEM12024A | Perform computations   | 3 |
| MEM13001B | Perform emergency first aid  | 1 |
| MEM13002B | Undertake occupational health and safety activities in the workplace                 | 3 |
| MEM13003B | Work safely with industrial chemicals and materials                                  | 2 |
| MEM13004B | Work safely with molten metals/glass   | 2 |
| MEM14005A | Plan a complete activity   | 4 |
| MEM15001B | Perform basic statistical quality control  | 2 |
| MEM15002A | Apply quality systems  | 2 |
| MEM15003B | Use improvement processes in team activities   | 4 |
| MEM16004B | Perform internal/external customer service   | 2 |
| MEM16005A | Operate as a team member to conduct manufacturing, engineering or related activities | 2 |
| MEM16006A | Organise and communicate information   | 2 |
| MEM16008A | Interact with computing technology   | 2 |
| MEM17003A | Assist in the provision of on the job training                                       | 2 |
| MEM18001C | Use hand tools   | 2 |
| MEM18002B | Use power tools/hand held operations   | 2 |
| MEM18013B | Perform gland packing  | 2 |
| MEM18038B | Maintain wheels and tyres  | 2 |
| MEM19001B | Perform jewellery metal casting  | 6 |
| MEM19002B | Prepare jewellery illustrations  | 4 |
| MEM19003B | Handle gem materials   | 2 |
| MEM19006B | Replace watch batteries  | 1 |
| MEM19009B | Perform investment procedures for lost wax casting process                           | 1 |

**Qualifications**

| <b>Unit code</b> | <b>Unit title</b>  | <b>P</b> |
|------------------|--|----------|
| MEM19010B        | Produce rubber moulds for lost wax casting process           | 2        |
| MEM19011B        | Perform wax injection of moulds for lost wax casting process | 2        |
| MEM19014B        | Perform hand engraving                                       | 4        |
| MEM19015B        | Perform jewellery enamelling                                 | 4        |
| MEM19016B        | Construct jewellery components                               | 4        |
| MEM19017B        | Fabricate jewellery items                                    | 6        |
| MEM20001A        | Produce keys   | 4        |
| MEM20002A        | Assemble and test lock mechanisms                            | 6        |
| MEM20003A        | Install and upgrade locks and hardware                       | 4        |
| MEM25001B        | Apply fibre-reinforced materials                             | 2        |
| MEM25002B        | Form and integrate fibre-reinforced structures               | 4        |
| MEM25004B        | Fair and shape surfaces                                      | 2        |
| MEM25006B        | Undertake marine sheathing operations                        | 2        |
| MEM25007B        | Maintain marine vessel surfaces                              | 4        |
| MEM25014B        | Perform marine slipping operations                           | 2        |
| MEM50002B        | Work safely on marine craft                                  | 1        |
| MEM50003B        | Follow work procedures to maintain the marine environment    | 1        |
| MEM50004B        | Maintain quality of environment by following marina codes    | 1        |
| MEM50009B        | Safely operate a mechanically powered recreational boat      | 2        |