



Australian Government

**Assessment Requirements for MEM19024
Use computer-aided design (CAD) to create
and display 3D jewellery or object models**

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM19024A Use CAD to create and display 3D jewellery and object models.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- demonstrating computer-aided design (CAD) techniques to create and display features of jewellery or object design features on at least two occasions
- producing 3D CAD models of jewellery or object designs on at least two occasions from single, two and three-point perspectives including multiple views, shapes and rendering
- applying drawing protocols including commonly used symbols, lettering standards, standard units of measurement, scale, numbering, legends and abbreviations
- undertaking numerical operations and calculations to complete measurements, calculate area and volume and estimate other material requirements
- saving and backing up files in accordance with procedures.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures
- elements and principles of design
- terminology and symbols used in drawings and CAD software
- types of computer-aided manufacturing (CAM) equipment and procedures for their safe use, operation and maintenance
- computer programs and CAD applications
- drafting and drawing codes, protocols and practices relevant to jewellery or object design
- 2D and 3D drawing and rendering techniques
- appropriate mathematical procedures for estimation and measurement
- documentation control procedures
- problem identification and resolution techniques

- jewellery or object design, features, shapes and construction techniques
- rendering applications and techniques and tools for the creation of illustration effects
- region and solid modelling techniques
- development of sectioned models
- use of cutting plane and cross hatching
- use of pre-drawn library files and primitives to produce 3D models
- use of third level software to produce 3D models
- how to extract mass and area properties from region models
- application of basic rendering techniques to a 3D model.
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Assessment Conditions

- Assessors must:
 - have vocational competency in using CAD to create and display 3D jewellery or object models at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>