



**Australian Government**

**Assessment Requirements for MEM09010  
Create 3-D models using computer-aided  
design system**

**Release: 1**

# Assessment Requirements for MEM09010 Create 3-D models using computer-aided design system

## Modification History

Release 1. Supersedes and is equivalent to MEM09010C Create 3D models using computer aided design system

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- preparing computer-aided design system (CAD) to create 3-D models, including establishing coordinate system, orientation and views to specifications and job requirements
- creating and modifying 3-D models using CAD by creating and manipulating entities in 3-D space, creating ruled and revolved surfaces and modifying existing 3-D model to suit job requirements
- undertaking numerical operations, geometry and calculations or formulae associated with creating 3-D models using CAD system
- producing and saving files in various formats for retrieval and extracting physical properties to meet job requirements.

## 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
- purpose for which the 3-D model is to be developed
- reasons for selecting the appropriate coordinate system for the job
- orientation of the model with respect to the coordinate system
- number of views required to establish the model
- procedures for:
  - creating and manipulating entities in 3-D space
  - modifying existing 3-D models
  - saving drawing files
  - extracting data with respect to the physical properties of shapes created in 3-D space
- entities that can be created and manipulated in 3-D space
- applications and procedures for creating ruled and revolved surfaces in 3-D space

- various formats in which drawing files can be saved and reasons for using different formats when saving drawing files
- physical properties of shapes created in 3-D space that can be extracted from the drawing file.

## Assessment Conditions

- Assessors must:
  - have vocational competency in creating 3-D models using computer-aided design system 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.

## Links

Companion Volume implementation guides are found in VETNet -

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