



Australian Government

Assessment Requirements for MEM09157 Perform mechanical engineering design drafting

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM09157A Perform mechanical engineering design drafting.

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
- producing drawings that are consistent with design information and all relevant Australian and international standards, codes and conventions
- selecting and applying design criteria to meet requirements of the design brief and confirming software and file formats to be used for design with stakeholders on at least two occasions
- developing orthographic, isometric and other 3D graphical representations
- representing mechanical components and assemblies using sketching and computer graphics on at least two occasions
- representing mechanical components and features using standard conventions and graphical techniques on at least two occasions
- representing mechanical assemblies using standard graphical representations on at least two occasions
- consulting with other personnel and stakeholders
- providing documentation.

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
- types of engineering drawings
- application of the role of engineering design, design drawing and detail drawing in mechanical and maintenance engineering tasks including:
 - design specifications
 - mechanical and maintenance procedures
 - technical specifications and descriptions

- content in design drawing briefs
- design criteria for mechanical designs
- graphical techniques
- types of mechanical assemblies, components and features
- availability and features of standards related to mechanical plant and devices, design, maintenance and alteration
- key requirements of AS 1100.101 Technical drawing – General principles, and means of locating and referencing other relevant standards
- methods of representing mechanical components and assemblies using sketching and computer graphics
- methods of documentation generation and control
- worksite procedures for the processing and filing of graphics, specifications and operating and maintenance instructions or manuals
- WHS and regulatory requirements, codes of practice, risk assessment and registration requirements relevant to mechanical and maintenance applications
- software options and developments in graphics and related engineering software
- documentation used in mechanical engineering design drafting
- current graphical methods compared with traditional methods.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing mechanical engineering design drafting 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 that 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>