



Australian Government

Assessment Requirements for MEM09011 Apply basic engineering design concepts

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM09011B Apply basic engineering design concepts

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
- determining design requirements to establish design concepts
- consulting on relevant codes, regulations, and technical documentation in consultation with appropriate personnel to establish design limitations and verifying design
- creating design concepts to meet requirements
- undertaking numerical operations, geometry and formula and calculations to ensure design meets end use requirement whilst complying with all legislative and regulatory requirements
- producing design outcome to meet end use requirement.

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
- design requirements
- functional requirements of the design
- materials appropriate to the environment in which the object to be designed is to operate
- processes to be used and the costs associated in the manufacture of the object
- reasons for selecting the chosen design concept
- all relevant codes, standards and regulations applying to the object to be designed and the impact on the design requirements
- sources of expert assistance in the design process
- end-use requirements of the design
- checks to ensure the design complies with the relevant codes, standards, legislative and regulatory requirements
- procedures for verifying design concepts
- means by which the design concept is to be presented and requirements for achieving design outcome.

Assessment Conditions

- Assessors must:
 - have vocational competency in applying basic engineering design concepts 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>