



Australian Government

Assessment Requirements for MEM14092 Integrate maintenance fundamentals into an engineering task

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM14092A Integrate maintenance fundamentals into an engineering task.

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
- communicating, cooperating and negotiating with stakeholders to achieve integration task
- determining task parameters, context and chain of responsibility
- identifying work health and safety (WHS), regulatory and risk management requirements and organisational procedures
- evaluating task requirements, principles, techniques, typical applications and software
- selecting and using software and graphics for required analysis and graphics
- planning the task
- integrating maintenance fundamentals to achieve task objectives on at least two occasions
- reviewing sustainability implications, functions and features for the engineering task
- reporting and documenting results on at least two occasions.

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
- maintenance and related fundamentals including:
 - materials properties
 - maintenance methods and processes
 - mechanics
 - chemistry
 - thermodynamics
 - fluid mechanics
 - fluid power

- electrical and electronic fundamentals
- fundamentals of controller programming, interfacing and signal conditioning
- computing
- graphics, including computer-aided design (CAD)
- workshop and maintenance equipment
- functions and maintainable features of plant, facilities and services
- sources of maintenance systems data
- maintenance methods and procedures including:
 - breakdown maintenance
 - preventive maintenance
 - predictive maintenance (on-condition)
 - precision maintenance
 - proactive maintenance
 - reliability centred maintenance and modification
 - total productive maintenance
 - repair and replace methods and processes
- role and application of maintenance-related risk management procedures and analysis
- systems thinking, problem-solving and decision-making, and continuous improvement methods
- WHS and regulatory requirements, codes of practice, standards, risk management and registration requirements
- sources of professional and technical assistance
- constraints on the integration of maintenance fundamentals into an engineering task
- sustainability considerations
- current options and trends in maintenance software
- typical software applications for engineering maintenance fundamentals.
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Assessment Conditions

- Assessors must:
 - have vocational competency in integrating maintenance fundamentals into an engineering task 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.
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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>