



Australian Government

MEM22001 Perform engineering activities

Release: 1

MEM22001 Perform engineering activities

Modification History

Release 1. Supersedes and is equivalent to MEM22001A Perform engineering activities.

Application

This unit of competency defines the skills and knowledge required to perform engineering activities at the paraprofessional level and covers the performance of technical aspects of engineering work where outcomes and performance measures are negotiated with appropriate personnel, technical experts and specialists in accordance with established engineering principles and practices. It applies to technical activities carried out within a range of engineering disciplines.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MEM16006 Organise and communicate information

Competency Field

Management and organisation

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify and implement engineering practices	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Identify engineering practices applicable to engineering activities 1.4 Research and evaluate factors, conditions and contexts integral to effective engineering practice 1.5 Research and evaluate the application of management practices and regulatory and legal systems to engineering practice 1.6 Incorporate elements of engineering practices into engineering activities
2. Negotiate, document	2.1 Consult with technical experts and specialists relevant to work

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
and monitor outcomes and performance measures	requirements 2.2 Evaluate and rank engineering options for activity 2.3 Negotiate and document performance measures for processes and outcomes with stakeholders
3. Implement activities	3.1 Negotiate and document work instructions with taskforce 3.2 Analyse hazards and risks associated with activity 3.3 Monitor and respond to progress in co-operation and consultation with stakeholders and taskforce 3.4 Conclude engineering activities in accordance with workplace and legislative requirements
4. Evaluate career options and develop career development strategy	4.1 Develop career options based on current engineering activities 4.2 Develop a curriculum vitae (CV) portfolio of current engineering activities that is also a framework for future engineering activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Factors, conditions and contexts include:	- academic development, work experience, ethical practices, indemnity, negotiation, consultation and human relations - applicable local, regional, national and international economic, political and social contexts.
Management practices include:	- strategic industrial management - financial management - work teams

	• supervision and control.
Factors requiring continual review and maintenance include three or more of the following:	• academic development • work experience • ethical practice • indemnity • negotiation • consultation • human relations.
Regulatory/legal systems include:	• industrial relations • work health and safety (WHS) • enterprise based agreements • chemical registers • noise abatement • industrial law particular industrial applications and work environments.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM22001A Perform engineering activities.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM22001 Perform engineering activities

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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
- researching and evaluating factors, conditions and contexts integral to effective engineering practices
- researching and evaluating the application of management practices and regulatory and legal systems integral to effective engineering practices
- consulting with technical experts and specialists and ranking and evaluating engineering options on at least two occasions
- complying with work health and safety (WHS) and environmental regulations, codes of practice and statutory requirements, identifying and analysing hazards and risks
- researching and evaluating engineering career options based on current engineering activities.

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
- political, social and environmental context and possible engineering activities
- need for continual review and maintenance of factors relevant to the practice of engineering
- significance and applicability of engineering activities
- methods for evaluation and ranking of engineering options including the use of decision-making and problem-solving tools
- significance of documented processes and outcomes-based performance measures in the context of client requirements, industrial, social, political and economic environments
- documented work instructions in the context of the objectives of the engineering activity
- negotiating principles
- use of a risk matrix in assessing risk
- long term environmental and sustainability issues associated with the engineering activity

- documentation and conclusion procedures
- relevance of current engineering activities to future career options and the value of a curriculum vitae (CV) or portfolio in contributing to future career options in engineering.
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Assessment Conditions

- Assessors must:
 - have vocational competency in performing engineering activities 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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