



Australian Government

MEM16009 Research and analyse engineering information

Release: 1

MEM16009 Research and analyse engineering information

Modification History

Release 1. Supersedes and is equivalent to MEM16009A Research and analyse engineering information

Application

This unit of competency defines the skills and knowledge required to research and analyse engineering information and prepare the information for dissemination.

Applications of this unit would typically be found in manufacturing and engineering work environments with materials and documents based on the relevant knowledge of the employee competency level.

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

Band: B

Unit Weight: 2

Pre-requisite Unit

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM16012	Interpret technical specifications and manuals

Competency Field

Communication

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Research information	1.1	Follow standard operating procedures and comply with work health and safety (WHS) requirements at all times
		1.2	Identify research requirements and clarify with appropriate persons

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.3	Identify sources of research data/information and verify for currency and accuracy
		1.4	Compile information, record and store using research techniques appropriate to the task requirements
		1.5	Sort information for relevance to research and analysis requirements
		1.6	Conduct research within given timeframe, resource and quality constraints
2	Analyse information	2.1	Determine scope, criteria and method for analysis and verify, if necessary, with appropriate persons
		2.2	Analyse information accurately according to established criteria
		2.3	Document analysis in an appropriate format according to workplace requirements
3	Establish findings and conclusions	3.1	Ensure findings are factual and accurate and describe the results of the analysis
		3.2	Reach conclusions that are logical and based on objective analysis of available data
		3.3	Verify research data, analysis, findings and conclusions with appropriate persons where required
4	Summarise and organise technical data	4.1	Record information in suitable form according to workplace requirements
		4.2	Summarise information and organise for ease of reference, using established communication principles
		4.3	Disseminate information to others according to workplace procedures

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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.

- Research requirements include one (1) or more of the following:**
- purpose
 - expected outcomes
 - scope and nature
 - timeframe
 - required resources

- Sources of research data/information include one (1) or more of the following:**
- surveys
 - interview
 - observation
 - test results
 - data records
 - reference books and journals
 - technical manuals
 - job histories
 - internal/external databases

- Research techniques include one (1) or more of the following:**
- surveying/scanning
 - skimming
 - questioning
 - note-taking
 - summarising
 - relationship diagrams
 - tabling

- Communication principles include one (1) or more of the following:**
- avoidance of ambiguity, redundancy, verbosity and circumlocution
 - writing in plain English
 - use of headings

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.

- logical ordering
- summarising
- layout
- customising material to audience
- use of graphics and tables

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM16009A Research and analyse engineering information

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 MEM16009 Research and analyse engineering information

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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 on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and confirming research requirements
- identifying sources of research data/information and verifying for currency and accuracy
- compiling, recording and storing research information using techniques appropriate to task requirements
- analysing information and data, sorting and documenting established findings and conclusions based on analysis and verifying conclusions with appropriate personnel
- summarising and organising information and technical data
- presenting information according to communication principles.

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
- basic principles and methods of research and analysis
- effective communication principles with respect to research, analysis and organisation of technical data
- sources of research data/information
- relevant personnel for consultation
- relevant information/data
- effect of variations in the information/data on the conclusions reached.

Assessment Conditions

- Assessors must:
 - have vocational competency in researching and analysing engineering information 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.

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