



Australian Government

Department of Education, Employment and Workplace Relations

MEM16009A Research and analyse engineering information

Release: 1

MEM16009A Research and analyse engineering information

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers researching and analysing information and preparing the information for dissemination.
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Application of the Unit

Application of the unit	In this unit, the employee may be researching and analysing engineering information for dissemination. Materials and documents mentioned are based on relevant knowledge of the employee competency level. Band: B Unit Weight: 2
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM16006A	Organise and communicate information
	MEM16012A	Interpret technical specifications and manuals

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Research information	1.1. Research requirements are identified and clarified with appropriate persons. 1.2. Sources of research data/information are identified and verified for currency and accuracy. 1.3. Information is compiled, recorded and stored using research techniques appropriate to the task requirements. 1.4. Information is sorted for relevance to research and analysis requirements. 1.5. Research is conducted within given timeframe, resource and quality constraints.
2. Analyse information	2.1. Scope, criteria and method for analysis are determined and verified, if necessary, with appropriate persons. 2.2. Information is accurately analysed according to established criteria. 2.3. Analysis is documented in an appropriate format according to workplace requirements.
3. Establish findings and conclusions	3.1. Findings are factual and accurately describe the results of the analysis 3.2. Conclusions are reached that are logical and based on objective analysis of available data. 3.3. Research data, analysis, findings and conclusions are verified, if necessary, with appropriate persons.
4. Summarise and organise technical data	4.1. Information is recorded in suitable form according to workplace requirements. 4.2. Information is summarised and organised for ease of reference, using established communication principles. 4.3. Information is disseminated to others according to workplace procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

REQUIRED SKILLS AND KNOWLEDGE**Required skills**

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- questioning
- applying research techniques
- checking and clarifying information
- note-taking
- analysing information and data
- sorting and identifying relevant information/data
- establishing findings and conclusions based on analysis
- summarising and organising information and technical data
- preparing materials for dissemination to others
- planning and sequencing operations

Required knowledge

Look for evidence that confirms knowledge of:

- 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
- use of internal/external databases
- relevant personnel for consultation
- relevant information/data
- effect of variations in the information/data on the conclusions reached
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to research and analyse engineering information. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with researching and analysing engineering information or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE**Guidance information for assessment****Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Research requirements

Purpose, expected outcomes, scope and nature, timeframe, required resources

Sources of research data/information

- Surveys
- Interview
- Observation
- Test results
- Data records
- Reference books and journals
- Technical manuals
- Job histories
- Internal/external databases

Research techniques

- Surveying/scanning
- Skimming
- Questioning
- Note-taking
- Summarising
- Relationship diagrams
- Tabling

Communication principles

- Avoidance of ambiguity, redundancy, verbosity, circumlocution etc.
- Use of headings
- Logical ordering
- Summarising
- Layout

RANGE STATEMENT

	• Customising material to audience • Use of graphics and tables
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Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Communication
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