



Australian Government

MEM23052 Apply basic electro and control scientific principles and techniques in aeronautical engineering

Release: 1

MEM23052 Apply basic electro and control scientific principles and techniques in aeronautical engineering

Modification History

Release 1. Supersedes and is equivalent to MEM23052A Apply basic electro and control scientific principles and techniques in aeronautical engineering

Application

This unit of competency defines the skills and knowledge required to apply basic electro and control scientific principles and techniques to aeronautical engineering situations including as a member of a design and development team in support of the design and development of engineering applications.

Aeronautical refers to the engineering discipline concerned with the conceptual development, research, design, manufacture, implementation, installation, commissioning and maintenance of aerospace mechanical, hydraulic, pneumatic, fuel and fire products, processes, systems or services for civil and military applications.

The unit applies to engineering or related activities requiring specific electro and control scientific principles and techniques and is suitable for people giving technical support to aeronautical engineering activities and those pursuing technical qualifications and careers at paraprofessional or technician level.

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

Pre-requisite Unit

Nil

Competency Field

Engineering science

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. Research basic electro and control scientific principles and techniques	1.1 Research and report on basic electro and control scientific principles relating to aeronautical engineering from appropriate sources of information and examination of applications 1.2 Identify basic electro and control techniques and associated

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	technologies, software and hardware required to implement scientific principles relating to aeronautical engineering situations
2. Select basic electro and control scientific principles and techniques	2.1 Select the relevant basic electro and control scientific principles for the particular aeronautical engineering situation 2.2 Select the relevant basic electro and control techniques and associated technologies, software and hardware for the particular aeronautical engineering situations
3. Apply the relevant basic electro and control scientific principles and techniques	3.1 Apply basic electro and control scientific principles in a consistent and appropriate manner to obtain any required solution 3.2 Use appropriate calculations and coherent units in the solution of engineering calculations 3.3 Use significant figures in engineering calculations 3.4 Apply basic electro and control techniques and associated technologies, software and hardware in a consistent and appropriate manner to obtain required solutions
4. Report results	4.1 Report on solutions for applications involving engineering calculations in an appropriate style 4.2 Report on solutions for applications not involving engineering calculations in an appropriate style

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.

Sources of information	reference texts
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include:	• manufacturer catalogues and industrial magazines • websites • use of phone and email.
Basic scientific techniques and principles refers to calculations and the use of coherent units in the completion of tasks, and includes:	• basic hand and power tool operations • machining • fitting • welding • moulding • fabricating • wiring • programming.
Aeronautical engineering situations include those related to:	• electro-hydraulic and electro-pneumatic systems • fuel storage and distribution systems • engine control systems • propeller control systems • flight control systems.

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM23052A Apply basic electro and control scientific principles and techniques in aeronautical engineering

Links

Companion Volume implementation guides are found in VETNet -

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