



Australian Government

Assessment Requirements for UEECD0041 Solve electrotechnical engineering problems

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (WHS/OHS) requirements, including using risk control measures
- completing work and documenting calculated solutions to electrotechnical activities
- documenting justification of solutions provided in accordance with relevant industry standards
- obtaining known constants and variables from relevant sources
- obtaining scope of problem from documentation and/or work supervisor
- providing calculated solutions to electrotechnical engineering problems
- solving problems using relevant calculations
- stating problems in written and/or diagrammatic form.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- capacitance in alternating current (a.c.) circuits
- capacitance/capacitors
- electromagnetic induction
- impedance in a.c. circuits
- inductance in a.c. circuits
- magnetism and electromagnetism
- measurement of electrical quantities
- parallel circuits
- phase relationships in a.c. circuits
- problem-solving techniques
- relevant industry standards
- relevant manufacturer specifications and operating instructions
- relevant job safety assessments or risk mitigation processes

- relevant WHS/OHS legislated requirements
- relevant workplace documentation, including:
 - diagrammatic form
 - work/project development records
- relevant workplace policies and procedures
- resistance
- series circuits
- series/parallel circuits
- single-source resistive a.c. circuits of various frequencies
- sinusoidal alternating voltage and current
- test equipment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

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.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to applying calculations required to solve electrotechnical problems
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>