



Australian Government

UEECD0038 Provide solutions and report on routine electrotechnology problems

Release: 1

UEECD0038 Provide solutions and report on routine electrotechnology problems

Modification History

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

Application

This unit involves the skills and knowledge required to provide solutions and report on electrotechnology problems.

It includes performing relevant numerical calculations to identify workplace electrotechnology problems, applying relevant problem-solving techniques, using a range of fundamental mathematical processes and techniques to resolve problems and documenting the solution/s.

Typical electrotechnology problems are those encountered in meeting routine performance requirements and compliance with industry standards, interpreting the operating parameters of equipment and dealing with equipment malfunctions. Typical reports are those based on routine structures and formats and require the application of routine communication fundamentals.

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

Pre-requisite Unit

Not applicable.

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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|---|---|
| 1 Perform fundamental numerical electrotechnology calculations | 1.1 Work health and safety (WHS)/occupational health and safety (OHS) procedures for a given work area are identified, obtained and applied |
| | 1.2 Nature of the problem is identified from documentation or work supervisor to determine scope of work to be undertaken |
| | 1.3 Problems are accurately documented in written and/or diagrammatic form to ensure issues are explicit and appropriate problem-solving methods used to resolve matter/s |
| | 1.4 Constants and variables related to electrotechnology problem are identified from measured values or relevant documentation |
| | 1.5 Methods for resolving electrotechnology problems are considered and discussed with appropriate person/s |
| | 1.6 Electrotechnology problems are resolved using relevant numerical calculations with result outcome in accordance with relevant industry standards |
| | 1.7 Solutions to electrotechnology problems are documented in accordance with workplace procedures |
| 2 Complete work calculations and report on solutions | 2.1 Solutions used to solve workplace electrotechnology problems are recorded for inclusion in work/project and/or records/technical reports in accordance with workplace procedures |
| | 2.2 Reporting requirements and structures are identified and used to prepare technical reports to communicate the calculated resolution to appropriate person/s |
| | 2.3 Reports are produced to communicate the calculated solutions in accordance with workplace procedures |
| | 2.4 Work completion is documented and appropriate person/s notified |

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Solving routine electrotechnology problems must include:

- numerical calculations relevant to equipment processes in the deployment of work functions
- reporting their outcomes in accordance with industry requirements

Demonstration of solving routine electrotechnology problems must be conducted in relation to any of the following disciplines:

- computers
- data communications
- electrical
- electronics
- instrumentation
- refrigeration and air conditioning

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE130A Provide solutions and report on routine electrotechnology problems.

Links

Companion Volume implementation guides are found in VETNet - -

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

Assessment Requirements for UEECD0038 Provide solutions and report on routine electrotechnology problems

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Performance Evidence

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

- completing work and reporting on calculated solutions, including:
 - using standard reporting structures and forms to prepare and produce documents/technical reports
 - interpreting and communicating solutions in documents/technical reports to appropriate person/s in accordance with workplace procedures
- performing calculations to solve electrotechnology problems, including:
 - identifying problems in written and diagrammatic form
 - obtaining known constants and variables from an appropriate source to solve problems
 - solving problems using appropriate fundamental calculations to achieve realistic and accurate outcomes.

Knowledge Evidence

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

- electrotechnology numeracy, including:
 - decimals
 - fractions and indices
 - percentages
 - graphs
 - multiples and sub-multiples
 - ratios and proportions
 - transposition
 - areas and volumes
 - trigonometry and Pythagoras' Theorem
 - construction of angles and triangles

- transposition of equations
- conversion of units of measurement
- electrotechnology literacy, including:
 - reading comprehension
 - spelling
 - sentence construction (syntax)
 - grammar.

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
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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