



Australian Government

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

Release: 1

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

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 use drawings, diagrams, cable schedules, industry standards, codes of practice and specifications as they apply to various electrotechnology work functions.

It includes interpreting schematic, wiring and mechanical diagrams, equipment and cable/connection schedules and manuals; and the use and format of compliance standards, codes and job specifications used in the electrotechnology industry. It also includes the use of site and architectural drawings/plans to show the location of services, apparatus, plant and machinery.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to use drawings, diagrams, schedules and manuals

PERFORMANCE CRITERIA

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

1.1 Hazards are identified, risks are assessed and control measures are implemented

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| | 1.2 | Need for drawings, diagrams, schedules or manuals is determined from the nature of work to be undertaken |
| | 1.3 | Relevant drawings, diagrams, site plans and cable/connection schedules or manuals required for the work to be undertaken are determined and obtained in accordance with workplace procedures |
| 2 Use drawings, diagrams, schedules and manuals to obtain job information | 2.1 | Drawings, diagrams and cable/connection schedules are interpreted using drawing layouts, conventions and symbols |
| | 2.2 | Dimensions are extracted from drawings and diagrams in accordance with workplace procedures for application to the work to be undertaken |
| | 2.3 | Location of equipment is determined from equipment cable/connection schedules and location diagrams |
| | 2.4 | Information relating to work to be undertaken is located and interpreted from relevant cable/connection manuals in accordance with workplace procedures |
| 3 Use drawings, diagrams, schedules and manuals to convey information and ideas | 3.1 | Drawing conventions are applied in neat and legible freehand drawings to convey information and ideas to person/s involved in the work to be undertaken |
| | 3.2 | Drawing conventions are used to neatly correct freehand original job drawing to show final 'as-installed' arrangement in accordance with workplace procedures |
| | 3.3 | Corrected drawings are forwarded to appropriate person/s in accordance with workplace procedures |
| 4 Comply with industry standards, codes of practice and specifications | 4.1 | Industry standards and codes of practice that specifically apply to relevant disciplines are obtained in accordance with workplace procedures |
| | 4.2 | Format of industry standards and codes of practice that apply to relevant disciplines are reviewed and applied in accordance with workplace procedures |
| | 4.3 | Purpose, format and content of job specifications are reviewed and applied |

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 UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Using drawings, diagrams, schedules, standards, codes and specifications must include:

- assembly, installation, fault finding, maintenance or development work functions in the electrotechnology industry

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications.

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 UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

Modification History

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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:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - identifying hazards
 - implementing and monitoring control measures
- dealing with unplanned events in accordance with workplace procedures
- extracting dimensions from drawings and diagrams
- reading and interpreting drawings, diagrams and plans to determine the location of electrical/communication/audio accessories and appliances
- using drawings, diagrams, cable/connection schedules, industry standards, codes of practice and specifications used in electrotechnology work, including:
 - giving correct information in freehand drawings
 - identifying and selecting drawings, diagrams, site plans, cable/connection schedules and manuals relevant to the work to be undertaken
 - interpreting drawings, diagrams, cable/connection schedules and manuals correctly
 - obtaining compliance standards and codes applicable to particular disciplines
 - reviewing and understanding the format of compliance standards and codes that apply to particular disciplines
 - reviewing the format and content of typical job specifications
 - using correct conventions in freehand drawings
- sketching and marking up basic circuit diagrams
- developing switching charts to identify the terminals of various types of switches
- using drawings, diagrams, schedules and manuals to:
 - connect equipment
 - convey information and ideas
 - obtain job information.

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:

- architectural drawings, including:
 - site plans, floor plans detailed drawings and standard drawings
 - architectural floor plans to determine the power and lighting or communications/audio/video layouts required in a domestic installation
 - site plans to locate the service point, consumer mains, communication services, main switchboard, distribution boards and/or builders supplies
 - standard drawing scales to determine the actual lengths represented by dimensions on an architectural drawing
 - Australian standard symbols used on floor plans to show the location of the accessories and appliances as detailed in an electrical schedule
- building construction drawings and diagrams, including:
 - building types: timber frame, brick veneer, double brick and metal frame
 - identification of different types of footings, floors, external walls, roofs and interior walls
 - typical cable routes through buildings, structures and premises
 - sequence of each constructional stage for brick, brick veneer and timber cottages
 - identification of the stages at which the electrical/communications - first and second fixing occurs in the constructional sequence
 - areas of cooperation between electrical/communications and other building trades
- circuit diagrams, including:
 - purpose of circuit diagrams in the electrotechnology industry
 - conventions used in and the features of circuit diagrams
 - common symbols used in circuit diagram
- electrical drawings, including:
 - types of electrical drawings: block, circuit, wiring and ladder diagrams
 - purpose and application of block, circuit, wiring diagrams and ladder diagrams
 - Australian standard symbols used to represent components on electrical diagrams
 - converting a circuit diagram to a wiring diagram
 - identification of cable type, origin and route from a cable schedule
 - developing a cable schedule for a given installation
- purpose, format and content of typical job specifications, including common templates on which job specifications are written
- regulations for undertaking electrical work, including legislative requirements for ensuring electrical or electronic equipment is safe i.e. compliance requirements of electrical installations
- scope of work covered by licensing in the electrotechnology industry (electrical licensing)
 - legislative requirements for ensuring electrical or electronic equipment is safe, including compliance requirements of electrical installations

- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures include risk mitigation process
- standards philosophy and format, including:
 - performance verses prescriptive requirements
 - purpose of technical standards and their development
 - role of Standards Australia/New Zealand, International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC)
 - how standards are used in compulsory and accreditation compliance schemes
 - arrangement and use of technical standards in relation to electrical and electronic work
 - how to read and apply a standard
 - standards and codes that apply to all types of electrical installations
 - standards mandated under regulation (e.g. Wiring Rules) or by an authority, deemed-to-comply standard and local service requirements (e.g. service rules)
 - codes applicable to electrical safe working practices and some aspects of the Building Code of Australia (BCA)
- wiring diagrams, including:
 - purpose of wiring diagrams in the electrotechnology industry
 - conventions used in and the features of wiring diagrams
 - common symbols used in wiring diagrams.

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 workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated 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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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