



Australian Government

**UEECD0030 Prepare
electrotechnology/utilities drawings using
manual drafting and CAD equipment and
software**

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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 prepare electrotechnology/utilities drawings using manual drafting and computer-aided design (CAD) equipment and software.

It includes preparing, planning and completing electrotechnology/utilities drawings using manual drafting and CAD equipment and software. It also includes preparation and modification of preliminary electrotechnology/utilities drawings and diagrams using manual drafting methods, techniques, procedures, devices and CAD equipment and software from specifications, layouts, sketches or verbal instructions.

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

Pre-requisite Unit

UEECS0033 Use engineering applications software on personal computers

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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

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

UEECD0031 Prepare engineering drawings using manual drafting and CAD for electrotechnology applications

and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

Competency Field

Cross Discipline

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan electrotechnology/utilities drawing using manual drafting and CAD equipment and software

PERFORMANCE CRITERIA

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

1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures are identified and applied

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

1.3 Extent of work is determined from job specifications and discussions with relevant person/s

1.4 Relevant person/s is consulted to coordinate work

1.5 CAD software, tools and equipment required for work are obtained in accordance with workplace procedures

2 Prepare electrotechnology/utilities drawing using manual drafting and CAD equipment and software

2.1 WHS/OHS risk control measures and procedures for carrying out work are followed

2.2 Design, detailed drawings and layouts required are determined from job specifications

2.3 Technical data of system components is interpreted to determine parameters included in detailed drawings

2.4 Relevant CAD software tools are used to produce detailed drawings based on industry standard protocols

2.5 Detailed drawings are checked for accuracy and compliance with job specifications

2.6 Unplanned situations are responded to in accordance with workplace procedures and approval with authorised

		person/s
3 Complete electrotechnology/utilities drawing using manual drafting and CAD equipment and software	3.1	Completed drawings are submitted to relevant person/s and checked for accuracy and compliance with job specifications
	3.2	Modifications are followed and drawings re-submitted for final approval
	3.3	Completed drawings are filed in accordance with workplace procedures

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.

Preparation of electrotechnology/utilities drawings using manual drafting and CAD equipment and software must include:

- architectural and site plan drawings
- auxiliary views and revolutions
- civil/geographic information systems (GIS) drawing basics
- electrotechnology drafting specifications, layouts, sketches or verbal instructions in conformance with Australian Standards and enterprise standards
- electrotechnology drawings line work, symbols, lettering and techniques
- layouts, assembly and installation drawings, and modifications (version control), and conversion between drawing types
- manual drafting methods, techniques, procedures and devices
- map drafting
- organisational procedures for collaborating with the client, key stakeholders and other staff in the selection of the preferred option

- organisational procedures for preparation and production of drawings, drawing sets, specifications, drafting documentation and operating and maintenance instructions/manuals for products and systems
- organisational procedures for processing, filing and saving all graphics, specifications, instructions and related documentation in correct format and location in accordance with work site procedures
- pole and structure elevations
- safety precautions when working with CAD equipment
- sketching methods, techniques, procedures and devices encompassing freehand sketching
- sketching techniques
- specifications obtained from design information, customer requirements, sketches, preliminary layouts and/or field investigations
- survey base plan drawings
- technical drawing equipment, including CAD applications, peripherals and devices including CAD software for electrotechnology applications and related commands
- type, form and size of materials from information, abbreviations and symbols supplied on electrotechnology drawings, briefs and/or specifications

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE191A Prepare electrotechnology/utilities drawings using manual drafting and CAD equipment and software.

Links

Companion Volume implementation guides are found in VETNet - -

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