



Australian Government

**UEECD0032 Produce detailed
electrotechnology/utilities drawings using
CAD equipment and software**

Release: 1

UEECD0032 Produce detailed electrotechnology/utilities drawings using CAD equipment and software

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 produce detailed electrotechnology/utilities drawings using computer-aided design (CAD) equipment and software.

It includes planning, producing and completing detailed electrotechnology/utilities drawings. It also includes modification and maintenance of detailed electrotechnology/utilities drawings and diagrams using 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

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

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 detailed electrotechnology/utilities drawing

2 Produce detailed electrotechnology/utilities drawing

3 Complete detailed electrotechnology/utilities drawing

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 for work are obtained in accordance with workplace procedures
- 2.1 WHS/OHS risk control measures and procedures for carrying out the 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 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
- 3.1 Completed detailed drawings are submitted to relevant person/s and checked for accuracy and compliance with job specifications

3.2 Modifications are followed and detailed drawings re-submitted for final approval

3.3 Completed detailed 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.

Producing detailed electrotechnology/utilities drawings using CAD equipment and software must include:

- detailed circuit and wiring diagrams/schedules, block diagrams, schematics, printed circuit board (PCB) layouts, assembly and installation drawings, modification drawings, and conversion between drawing types
- electrotechnology/utilities specifications, layouts, sketches or verbal instructions in conformance with Australian Standards, enterprise standards and/or design brief
- master sketches methods, techniques, procedures and devices including freehand sketching
- type, form and size of materials from information, abbreviations and symbols supplied on electrotechnology/ utilities engineering drawings, briefs and/or specifications
- specifications may be obtained from design information, customer requirements, sketches, preliminary layouts and/or field investigations
- materials and equipment used in electrotechnology/ utilities engineering applications by selecting the correct type, form and size of materials and equipment from information, abbreviations and

- symbols supplied on detailed electrotechnology/ utilities engineering drawings, briefs and/or specifications
- advanced CAD equipment commands and drawing techniques and processes
 - CAD application programs and advanced tools
 - utility programs disk and file management
 - filing systems management including entering/retrieving technical information from computer-related database programs for the production, modification and/or maintenance of detailed electrotechnology/ utilities drawings
 - safety precautions when working with CAD equipment
 - detailed working drawings
 - drafting/modelling electrotechnology/ utilities
 - detailed electrotechnology/utilities drawings including a representative array of relevant 2-D and 3-D CAD drawings
 - single and multi-part components and detailed electrotechnology utilities assemblies for fabrication, assembly, installation and/or modification of products including dimensions including dimensions; fabrication, assembly, installation and/or modification notes, circuit/wiring layouts/schedules and parts lists from specified dimensions, associated tolerances and design specifications.
 - architectural drawings for electrotechnology/utilities applications
 - 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
 - organisational procedures for collaborating

with the client, key stakeholders and other staff in the selection of the preferred option

Unit Mapping Information

This unit replaces and is equivalent to UEENEEE192A Produce detailed electrotechnology/utilities drawings using computer aided design 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>