



**Australian Government**

# **UEECD0028 Plan an integrated cabling installation system**

**Release: 1**

# UEECD0028 Plan an integrated cabling installation system

## 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 plan an integrated cabling installation system, including cable routes for intelligent power and lighting, information and communications, entertainment systems, distributed video and audio, energy management and control, security and safety, digital home health and aged and assisted living.

It includes determining immediate and future cabling needs of an installation, including origin and termination points, planning cable routes, specifying cable types and sizes, fixing/support methods and cable identification systems. It also includes documenting cabling plans based on calculated and/or deemed-to-comply solutions.

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

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

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

UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits  
or

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

## Competency Field

Cross Discipline

## Unit Sector

Electrotechnology

## Elements and Performance Criteria

### ELEMENTS

### PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

#### **1 Determine immediate and future cabling needs**

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) risk control measures and workplace procedures for carrying out work are followed
- 1.2** Supervisor and/or customers are consulted to determine immediate and future cabling services, systems, service items, devices and accessories required
- 1.3** Immediate and future location of systems, service items, devices and accessories are determined and written confirmation sought from appropriate person/s in accordance with workplace procedures
- 1.4** Safety and other regulatory requirements required for installation compliance are determined and followed in accordance with workplace procedures

#### **2 Plan an integrated cabling system for immediate and future services**

- 2.1** Types, sizes and capacity of cables required for the various services to be installed are selected to comply with relevant industry technical standards, codes of practice, regulations and workplace procedures
- 2.2** Cables are arranged into circuits to ensure safe and functional operation of the services for which they are intended, and comply with technical industry standards, codes of practice, regulations, workplace procedures and budgetary restraints
- 2.3** Cabling for protective and functional earthing is determined in accordance with technical industry standards, codes of practice, regulations and workplace procedures
- 2.4** Cabling routes are planned and cable support methods for protection against damage are identified to ensure compliance with technical industry standards, codes of practice, regulations and workplace procedures
- 2.5** Cable identification labelling scheme is developed to aid installation of services in accordance with workplace procedures

- |                                               |            |                                                                                                                                                                                    |
|-----------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               | <b>2.6</b> | Methods for terminating cables intended for future services are specified in accordance with technical industry standards, codes of practice, regulations and workplace procedures |
| <b>3 Document the integrated cabling plan</b> | <b>3.1</b> | Type, size and capacity of cables selected for the installation of services and supporting justification are documented in accordance with workplace procedures                    |
|                                               | <b>3.2</b> | Cable route and cable support methods for protection against damage are documented in accordance with technical industry standards and workplace procedures                        |
|                                               | <b>3.3</b> | Cable identification labelling scheme and methods of terminating cables intended for future services are documented in accordance with workplace procedures                        |
|                                               | <b>3.4</b> | Acceptance of the integrated cabling plan is sought from relevant person/s                                                                                                         |

## 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.

Planning two integrated cabling installations and must include at least four of the following services:

- intelligent electrical power and lighting
- fixed home entertainment systems
- integrated energy management system
- security and safety system
- climate control system
- renewable energy systems
- water management system
- information and communications
- digital home health
- age and assisted living

## Unit Mapping Information

This unit replaces and is equivalent to UEENEEE121A Plan an integrated cabling installation system.

## 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 UEECD0028 Plan an integrated cabling installation system

## 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 using risk control measures
- communicating effectively with relevant internal and external stakeholders
- completing workplace documentation
- complying with relevant industry technical standards, codes of practice and regulations
- planning integrated cabling installation, including:
  - arranging cables into circuits safely ensuring services function correctly
  - choosing appropriate type and size of cables for immediate and future services
  - dealing with unplanned events in accordance with workplace procedures
  - determining immediate and future cabling needs accurately
  - determining immediate and future location of systems/service items devices and accessories
  - determining immediate and future systems, service items, devices and accessories
  - developing an effective cable identification labelling scheme
  - documenting cabling plan including supporting justification
  - planning cable routes and specifying effective support and protection methods
  - selecting cabling for protective and functional earthing
  - specifying compliant termination methods for cables intended for future use.

## 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:

- cable identification labelling scheme
- cable sizes, types and capacity
- electrical circuits

- installation compliance requirements
- methods for terminating cables
- protective and functional earthing techniques
- relevant cabling routes and support methods to protect against damage
- relevant electrical regulations and codes of practice
- relevant industry and technical standards
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant systems, including:
  - age and assisted living
  - digital home health
  - energy management
  - entertainment
  - information and communications
  - intelligent lighting and power
  - security and safety
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

## 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.

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