



Australian Government

UEEIC0011 Develop electrical integrated systems

Release: 1

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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 develop electrical integrated systems.

It includes working safely; analysing and adapting project specifications, device applications and capabilities; system programming methods using diagnostic tools in developing and documenting an electrical integrated system.

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

Pre-requisite Unit

Where prerequisite pathways have been identified, all competencies in the Common Unit Group must have been completed plus all the competencies in one (1) of the identified Pathway Unit Group(s)

Common Unit Group

ICTICT203 Operate application software packages

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

Electrotechnology Pathway Group

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

Electrical Pathway Group

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

Competency Field

Instrumentation & Control

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to develop an electrical integrated system

2 Program integrated system devices

PERFORMANCE CRITERIA

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

- 1.1 Types and locations of loads and control devices are determined from project specifications and customer requirements
- 1.2 Number of control bus networks and current requirements are determined from load calculations for devices
- 1.3 Appropriate placement of system devices in system scheme is determined from bus network power and load parameters whilst maintaining system stability
- 1.4 Integrated system is developed to comply with regulator safety and manufacturer specifications
- 1.5 Number of devices and accessories required for the system is documented using manufacturer title and identification (ID) for each component
- 1.6 Relevant programming and diagnostic tools are downloaded to compatible computer and checked for accurate operation and safety
- 2.1 Hazards are identified, risks assessed and control measures implemented
- 2.2 Modes of programming are applied to developing the electrical integrated system in accordance with manufacturer and programming software instructions
- 2.3 Manufacturer instructions and recommendations are followed when programming system devices to project specifications
- 2.4 Parameters for operation of loads are programmed to project specifications within manufacturer designated range

- 3 Load and test electrical integrated system**
- 2.5 Programmed system database is saved and backed up in accordance with manufacturer instructions
 - 3.1 Work health and safety (WHS)/occupational health and safety (OHS) risk control work measures and workplace procedures are followed
 - 3.2 Database of integrated system programs are transferred to the network in accordance with workplace procedures
 - 3.3 Integrated system functions are tested for compliance with project and manufacturer specifications
 - 3.4 Diagnostic tools are used to locate system faults, defects or anomalies
 - 3.5 Defects or anomalies are corrected to comply with project requirements and manufacturer specifications
 - 3.6 Integrated system is documented and a copy given to client/representative

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.

- Developing electrical integrated systems must include the following:
- six of the following functions:
 - corridor linking
 - direct load control
 - energy saving on dimmers
 - light level maintenance
 - multiple load control
 - panic button
 - passive infrared sensor (PIR) enable/disable
 - restrike delays
 - scenes

- two-way switching
- typical master bedroom
- using more than one programming mode
- transferring a program database to a network and testing functionality
- finding at least five hardware and five software faults

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI141A Develop electrical integrated systems.

Links

Companion Volume implementation guides are found in VETNet - -

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