



Australian Government

UEENEEI143A Develop access control of electrical integrated systems using logic-based programming tools

Release: 2

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Modification History

Release	Action	Core/Elective	Details	Points
2	Edit	N/A	Show full pre-req chain in the unit	
2	Edit	N/A	Replaced "essential knowledge and associated skills" with "required skills and knowledge"	

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers programming functions and parameters of touch screens and other access controls in an integrated system. It encompasses working safely and to manufacturer's instructions and regulatory requirements, applying knowledge of the application integrated system, using proprietary touch screen programming tools, and documenting as-programmed access functions.

Application of the Unit

Application of the Unit 2)

This unit is intended as an elective or skill set at AQF 4 level. It may be aligned with a vendor training program that is shown to have the same competency outcomes as this unit.

Licensing/Regulatory Information

License to practice

3)

The skills and knowledge described in this unit requires a license to practice in the workplace where plant and equipment is directly connected to installation wiring that operates at voltage above 50 V a.c. or 120 V d.c. However other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed plus all the competencies in one (1) of the identified Pathway Unit Group(s):

Electrotechnology

Electrical

Common Unit Group

Unit Code

Unit Title

UEENEE101A Use computer applications relevant to a workplace

UEENEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEE102A Fabricate, assemble and dismantle utilities industry components

Prerequisite Unit(s) 4)

UEENEEE105A	Fix and secure electrotechnology equipment
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications
UEENEEI141A	Develop electrical integrated systems
UEENEEI142A	Develop an electrical integrated system interface for access through a touch screen

Electrotechnology Pathway Group

Unit Code	Unit Title
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UEENEEE108A	Lay wiring/cabling and terminate accessories for ELV circuits
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Electrical Pathway Group

Unit Code	Unit Title
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UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits
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Literacy and numeracy skills 4.2)

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	5	Writing	5	Numeracy	5
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Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of

Employability Skills

5)

competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1 Prepare to program integrated system access control	1.1	The functions of integrated system access is determined from the systems data base and customer requirements.
	1.2	Control parameters are determined from the integrated systems data base and confirmed with the customer.
	1.3	Programming software tools and project data are down loaded to a compatible PC and checked.
	1.4	Manufacturer's instruction for installing and connecting internet connectivity equipment are read and understood.
2 Program integrated system access control	2.1	OHS risk control work measures and procedures are followed.
	2.2	Knowledge of integrated system logic-based programming methods are used in programming access control.
	2.3	Integrated system functions and parameters are programmed for compatibly with the integrated system and to customer requirements

ELEMENT	PERFORMANCE CRITERIA
3 Back up, transfer and test system access control	2.4 Network connectivity is implemented in accordance with manufacturer's instruction and regulatory requirements.
	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Programmed functions and parameters are backed up and transfer to the system following manufacturer's instructions.
	3.3 System access tests are conducted to verify compatibility and compliance with the integrated system and customer requirements.
	3.4 Non-compliance operations and anomalies are corrected to comply with manufacturer's and customer requirements.
	3.5 A copy of the documentation of the as-programmed access specifications is given the client or client's representative.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the required skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge and associated skills for developing access control of integrated systems using logic-based programming tools have been acquired.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EI143A Logic-based programming for integrated systems

Evidence shall show an understanding of logic-based programming for integrated systems to an extent indicated by the following aspects:

T1 Integrated system hardware parameters and limitations

T2 Integrated system configuration software features and options.

Features include touch screen colours, file management, file import and export.

T3 Logic gates as they apply in integrated system control

T4 Logic-based software tools encompassing:

- Functions, actions, variables and limitations
- Basic code syntax
- Compiling and editing
- Exporting and archiving
- Monitoring usage

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects
of evidence
required to
demonstrate
competency in
this unit**

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the required skills and knowledge as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Programming integrated system controllers using logic-based programming tools as described in 8) and including:
 - A Determining the functions and parameters of the integrated system
 - B Down loading a PC and checking software tools and integrated system programming software and project data.

- C Checking that network equipment and connectivity comply with manufacture's requirements.
- D Developing integrated system functions and parameters in accordance for compatibility with the integrated system and to customer requirements
- E Backing up and transferring programmed functions and parameters following manufacturer's instructions.
- F Testing access and correcting non-compliance operations and anomalies.
- G Documenting the as-programmed access control specifications.

**Context of and
specific
resources for
assessment** **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed in this unit.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to developing access control of integrated systems using logic-based programming tools.

**Method of
assessment** **9.4)**

This unit shall be assessed by methods given in Volume 1, Part 3

‘Assessment Guidelines’.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified required skills and knowledge are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the required skills and knowledge described in this unit.

**Concurrent
assessment and
relationship with
other units**

9.5)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to programming integrated system access using logic-based programming tools with at least the following functions:

- Selectors
- Room Joining
- Counters and Drawing
- Logic Timer
- Run On Timer
- Corridor Linking
- Scene Storing
- System I/O Scheduling
- After Hours
- Enable / Disable functions

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Instrumentation and Control