



**Australian Government**

# **UEE40411 Certificate IV in Electrical - Instrumentation**

**Release 4**

## UEE40411 Certificate IV in Electrical - Instrumentation

### Modification History

Release	Action	Core/Elective	Details	Points
2	Edit		Edit Name to reflect correct Unit title UEENEED104A Use engineering applications software on personal computers	40
2	Edit		Edit Name to Reflect correct Unit Title UEENEEI124A Fault find and repair analogue circuits and components in electronic control systems	
2	Update	Group A	HLTCPR211A Perform CPR	10

3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI102A Solve problems in pressure measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI103A Solve problems in density_level measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI104A Solve problems in flow measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI105A Solve problems in temperature measurement components and systems	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI106A Set up and adjust PID control loops	40
3	Edit	Group B	Edit Name to reflect correct Unit title UEENEEI110A Set up and adjust advanced PID process control loops	40
3	Edit	Group C	Edit Name to reflect correct Unit title	60

			UEENEEI151A Develop, enter and verify word and analogue control programs for programmable logic controllers.	
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEK145A Implement and monitor energy sector environmental and sustainable policies and procedures	20

4	Update	Elective	HLTAID001 - Provide cardiopulmonary resuscitation	10
4	Edit	Core	Correct title of UEENEEE101A - Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
4	Edit	Core	Correct title of UEENEEE102A - Fabricate, assemble and dismantle utilities industry components	40
4	Edit	Core	Correct title of UEENEEI101A - Use instrumentation drawings, specification, standards and equipment manuals	40
4	Edit	Core	Correct title of UEENEEI103A - Solve problems in density/level measurement components and systems	40
4	Edit	Elective	Correct title of UEENEEED101A - Use computer applications relevant to a workplace	20
4	Edit	Elective	Correct title of UEENEEG119A - Maintain operation of electrical marine equipment and systems	60
4	Edit	Elective	Correct title of UEENEEH102A - Repairs basic electronic apparatus faults by replacement of components	40
4	Edit	Elective	Correct title of UEENEEI107A - Install instrumentation and control cabling and tubing	20
4	Edit	Elective	Correct title of UEENEEI108A - Install instrumentation and control apparatus and associated equipment	20
4	Edit	Elective	Correct title of UEENEEI116A - Assemble, enter and verify operating instructions in microprocessor equipped devices	20

4	Edit	Elective	Correct title of UEENEEI119A - Set up industrial field control devices	60
4	Edit	Elective	Correct title of UEENEEI126A - Provide solutions to pneumatic-hydraulic system operations	80
4	Edit	Elective	Correct title of UEENEEI148A - Solve problems in single phase electronic power control circuits	60
4	Edit	Elective	Correct title of UEENEEI149A - Solve problems in polyphase electronic power control circuits	60

## Description

### Scope

This qualification provides competencies to select, install, commission, fault find and maintain electrical and instrumentation equipment in buildings and premises and instrumentation systems and core instrumentation equipment for process and control. It includes ERAC requirements for an 'Electrician's licence'.

## Pathways Information

Not applicable.

## Licensing/Regulatory Information

Not applicable.

## Entry Requirements

Not applicable.

## Employability Skills Summary

Not applicable.

## Packaging Rules

### Completion requirements

The requirements for granting this qualification will be met when competency is demonstrated and achieved for:

- All the Core competency standard units, defined in the Core Competency Standard Units table below and
- A combination of Elective competency standard units to achieve a total weighting of 120 points in accordance with the Elective Competency Standard Units table below.

Note: UEENEEG105A - Those holding an 'Unrestricted Electricians Licence or equivalent issued in an Australian State or Territory meets the requirements of this unit and its pre-requisite requirements.

Core Competency Standard Units		Weighting Points
All Core competency standard units to be achieved		
UEENEEE038B	Participate in development and follow a personal competency development plan	20
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace	20
UEENEEE102A	Fabricate, assemble and dismantle utilities industry components	40
UEENEEE104A	Solve problems in d.c. circuits	80
UEENEEE105A	Fix and secure electrotechnology equipment	20
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEE124A	Compile and produce an energy sector detailed report	60
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20
UEENEEG006A	Solve problems in single and three phase low voltage machines	80
UEENEEG033A	Solve problems in single and three phase low voltage electrical apparatus and circuits	60

UEENEEG063A	Arrange circuits, control and protection for general electrical installations	40
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	60
UEENEEG102A	Solve problems in low voltage a.c. circuits	80
UEENEEG103A	Install low voltage wiring and accessories	20
UEENEEG104A	Install appliances, switchgear and associated accessories for low voltage electrical installations	20
UEENEEG105A	Verify compliance and functionality of low voltage general electrical installations	40
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits	40
UEENEEG107A	Select wiring systems and cables for low voltage general electrical installations	60
UEENEEG108A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	40
UEENEEG109A	Develop and connect electrical control circuits	80
UEENEEI101A	Use instrumentation drawings, specification, standards and equipment manuals	40
UEENEEI102A	Solve problems in pressure measurement components and systems	40
UEENEEI103A	Solve problems in density/level measurement components and systems	40
UEENEEI104A	Solve problems in flow measurement components and systems	40
UEENEEI105A	Solve problems in temperature measurement components and systems	40
UEENEEK145A	Implement and monitor energy sector environmental and sustainable policies and procedures	20
<b>Total points in core</b>		<b>1160</b>

<b>Elective Competency Standard Units</b>		
Complete Elective units to achieve a total of weighting of 120 points from the following groups:		
<b>Group</b>	<b>Minimum points</b>	<b>Maximum points</b>
<b>A Imported and Common Elective Units</b> Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 4. If units have not been assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	60
<b>B Qualification Elective Units</b>	0	60
<b>C Qualification Elective Units</b> You may select all your elective units from this Group	60	120

<b>Group A – Imported and Common Elective Units</b>		<b>Weighting Points</b>
You may complete units to a maximum weighting of 60		
UEENEEC001B	Maintain documentation	20
UEENEEC002B	Source and purchase material/parts for installation or service jobs	20
UEENEEC003B	Provide quotations for installation or service jobs	20
UEENEEC010B	Deliver a service to customers	20
UEENEEED101A	Use computer applications relevant to a workplace	20
UEENEEEE009B	Comply with scheduled and preventative maintenance program processes	20
UEENEEEE020B	Provide basic instruction in the use of electrotechnology apparatus	20
CPCCOHS1001A	Work safely in the construction industry	10
HLTAID001	Provide cardiopulmonary resuscitation	10

	<p>Imported units from other training packages and/or state accredited courses can be added to this group, but they must be selected from qualifications where the unit is first packaged at AQF level 4. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.</p> <p>Note: For further information see Application of the NQC Flexibility Formula, UEE11 Electrotechnology Training Package, Version 1, Volume 1 Qualification Framework</p>	<p>Up to 60 points</p>
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<b>Group B – Qualification Elective Units</b>		<b>Weighting Points</b>
You may complete units to a maximum weighting of 60		
UEENEED104A	Use engineering applications software on personal computers	40
UEENEED118A	Maintain operation of electrical mining equipment and systems	60
UEENEED119A	Maintain operation of electrical marine equipment and systems	60
UEENEED102A	Repairs basic electronic apparatus faults by replacement of components	40
UEENEED111A	Troubleshoot single phase input d.c. power supplies	40
UEENEED106A	Set up and adjust PID control loops	40
UEENEED107A	Install instrumentation and control cabling and tubing	20
UEENEED108A	Install instrumentation and control apparatus and associated equipment	20
UEENEED110A	Set up and adjust advanced PID process control loops	40
UEENEED111A	Find and rectify faults in process final control elements	40
UEENEED113A	Setup and configure human-machine interface (HMI) and industrial networks	60
UEENEED116A	Assemble, enter and verify operating instructions in microprocessor equipped devices	20
UEENEED140A	Plan the electrical installation of integrated systems	20
UEENEED141A	Develop electrical integrated systems	20
UEENEED150A	Develop, enter and verify discrete control programs for programmable controllers	60
UEENEED019A	Attend to breakdowns in hazardous areas — coal mining	20

UEENEEM020A	Attend to breakdowns in hazardous areas — gas atmospheres	20
UEENEEM021A	Attend to breakdowns in hazardous areas — dust atmospheres	20
UEENEEM022A	Attend to breakdowns in hazardous areas — pressurisation	20
UEENEEM023A	Install explosion-protected equipment and wiring systems — coal mining	60
UEENEEM024A	Install explosion-protected equipment and wiring systems — gas atmospheres	60
UEENEEM025A	Install explosion-protected equipment and wiring systems — dust atmospheres	60
UEENEEM026A	Install explosion-protected equipment and wiring systems — pressurisation	60
UEENEEM027A	Maintain equipment in hazardous areas — coal mining	60
UEENEEM028A	Maintain equipment in hazardous areas — gas atmospheres	60
UEENEEM029A	Maintain equipment in hazardous areas — dust atmospheres	60
UEENEEM030A	Maintain equipment in hazardous areas — pressurisation	60
UEENEEM038A	Conduct testing of hazardous areas installations — coal mining	40
UEENEEM039A	Conduct testing of hazardous areas installations — gas atmospheres	40
UEENEEM040A	Conduct testing of hazardous areas installations — dust atmospheres	40
UEENEEM041A	Conduct testing of hazardous area installations — pressurisation	40
UEENEEM042A	Conduct visual inspection of hazardous areas installations	40
UEENEEM076A	Use and maintain the integrity of a portable gas	20

	detection device	
UEENEEM077A	Install and maintain the integrity of fixed gas detection equipment	20
UEENEEM080A	Report on the integrity of explosion-protected equipment in a hazardous area	20

<b>Group C – Qualification Elective Units</b>		<b>Weighting Points</b>
You must complete units to a minimum weighting of 60 You may select all your elective units from this Group		
UEENEEI119A	Set up industrial field control devices	60
UEENEEI120A	Provide solutions to problems in industrial control systems	60
UEENEEI124A	Fault find and repair analogue circuits and components in electronic control systems	60
UEENEEI125A	Provide solutions to fluid circuit operations	60
UEENEEI126A	Provide solutions to pneumatic-hydraulic system operations	80
UEENEEI139A	Diagnose and rectify faults in digital controls systems	60
UEENEEI148A	Solve problems in single phase electronic power control circuits	60
UEENEEI149A	Solve problems in polyphase electronic power control circuits	60
UEENEEI151A	Develop, enter and verify word and analogue control programs for programmable logic controllers.	60
UEENEEI152A	Develop, enter and verify programs in Supervisory Control and Data Acquisition systems	60

**Note:**

1. Prerequisite pathways shall be identified and met for all elective units selected.

2. In selecting elective units considerations to career planning advice should be given to units that form part of a prerequisite pathway for the progression to achieve particular competencies or qualification at a higher level.

**END OF QUALIFICATION**

## **Custom Content Section**

Not applicable.