Australian Government

UEE50211 Diploma of Electrical and Instrumentation

Release 4

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UEE50211 Diploma of Electrical and 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	
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEI102A Solve problems in pressure measurement components and systems	40
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEI103A Solve problems in density_level measurement components and systems	40
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEI104A Solve problems in flow measurement components and systems	40
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEI105A Solve problems in temperature measurement components and systems	40
3	Edit	Core	Edit Name to reflect correct Unit title UEENEEI106A Set up and adjust PID control loops	40
3	Edit	Core	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 UEENEEI151A Develop, enter and verify word and analogue control programs for programmable logic controllers.	60

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 UEENEEE124A - Compile and produce an energy sector detailed report	60
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	Core	Correct title of UEENEEI107A - Install instrumentation and control cabling and tubing	20
4	Edit	Elective	Correct title of UEENEED101A - 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 UEENEEI116A - Assemble, enter and verify operating instructions in microprocessor equipped devices	20
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 develop, select, install, commission, maintain and diagnose faults/malfunctions on electrical, instrumentation and control equipment and systems. 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 80 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.
Note: UEENEEI112A - Those holding a 'Certificate III in Instrumentation and Control trade qualification or equivalent' meet the requirements of this unit and its pre-requisite requirements.

Core Competency Standard Units All Core competency standard units to be achieved		**Weighting Points**
UEENEEE038B	Participate in development and follow a personal competency development plan	20
UEENEEE084A	Write specifications for electrotechnology engineering projects	40
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
UEENEEI106A	Set up and adjust PID control loops	40

UEENEEI107A	Install instrumentation and control cabling and tubing	20
UEENEEI108A	Install instrumentation and control apparatus and associated equipment	20
UEENEEI110A	Set up and adjust advanced PID process control loops	40
UEENEEI111A	Find and rectify faults in process final control elements	40
UEENEEI112A	Verify compliance and functionality of instrumentation and control installations	40
UEENEEI113A	Setup and configure human-machine interface (HMI) and industrial networks	60
UEENEEI150A	Develop, enter and verify discrete control programs for programmable controllers	60
UEENEEK132A	Develop strategies to address environmental and sustainability issues in the energy sector	20
Total points in core		**1520**

Elective Competency Standard Units

Complete Elective units to achieve a total of weighting of 80 points from the following groups:

Group		**Minimum points**	**Maximum points**
A	**Imported and Common Elective Units** 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 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	20
B	**Qualification Elective Units**	0	20
C	**Qualification Elective Units**	0	20

Elective Competency Standard Units Complete Elective units to achieve a total of weighting of 80 points from the following groups:			
Group		**Minimum points**	**Maximum points**
A	**Imported and Common Elective Units** 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 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points.	0	20
D	**Qualification Elective Units** You may select all your elective units from this Group	60	80

Group A – Imported and Common Elective Units You may complete units to a maximum weighting of 20		**Weighting Points**
BSBMGT502B	Manage people performance	70
BSBINM501A	Manage an information or knowledge management system	50
BSBMGT516C	Facilitate continuous improvement	60
BSBINN502A	Build and sustain an innovative work environment	50
BSBWOR502B	Ensure team effectiveness	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
UEENEED101A	Use computer applications relevant to a workplace	20
UEENEEE009B	Comply with scheduled and preventative	20

	maintenance program processes	
UEENEEE020B	Provide basic instruction in the use of electrotechnology apparatus	20
	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 5. If units have not being assigned a weighting by the relevant EE-Oz Industry Technical Advisory Committee, their weighting will be 10 points. Note: For further information see Application of the NQC Flexibility Formula, UEE11 Electrotechnology Training Package, Version 1, Volume 1 Qualification Framework	Up to 20 points

Group B – Qualification Elective Units You may complete units to a maximum weighting of 20		**Weighting Points**
UEENEED104A	Use engineering applications software on personal computers	40
UEENEEG118A	Maintain operation of electrical mining equipment and systems	60
UEENEEG119A	Maintain operation of electrical marine equipment and systems	60
UEENEEH102A	Repairs basic electronic apparatus faults by replacement of components	40
UEENEEH111A	Troubleshoot single phase input d.c. power supplies	40
UEENEEI116A	Assemble, enter and verify operating instructions in microprocessor equipped devices	20
UEENEEI140A	Plan the electrical installation of integrated systems	20
UEENEEI141A	Develop electrical integrated systems	20
UEENEEM019A	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

Group C – Qualification Elective Units You may complete units to a maximum weighting of 20		**Weighting Points**
UEENEEC005B	Estimate electrotechnology projects	40
UEENEEG179A	Develop detailed electrical drawings	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
UEENEEI142A	Develop an electrical integrated system interface for access through a touch screen	20
UEENEEI143A	Develop access control of electrical integrated systems using logic-based programming tools	20
UEENEEI144A	Develop interfaces for multiple access methods to monitor, schedule and control an electrical integrated system	20
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
UEENEEI155A	Develop structured programs to control external devices	40

Group D – Qualification Elective Units You must complete units to a minimum weighting of 40 You may select all your elective units from this Group		**Weighting Points**
UEENEEG180A	Develop detailed and complex drawings for electrical systems using CAD systems	60
UEENEEI127A	Analyse complex electronic circuits controlling fluids	80
UEENEEI145A	Diagnose and rectify faults in a.c. motor drive systems	60

UEENEEI146A	Diagnose and rectify faults in d.c. motor drive systems	60
UEENEEI147A	Diagnose and rectify faults in servo drive systems	60
UEENEEI156A	Develop and test code for microcontroller devices	60
UEENEEI157A	Configure and maintain industrial control system networks	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.
3. Registered training organisations shall provide competency development advice in relation to any licensing requirements to practice that apply, or can contribute towards the qualification requirement, prior to establishing the competency development plan.
END OF QUALIFICATION

Custom Content Section

Not applicable.