Australian Government

UEE505xx Diploma of Electrotechnology Systems

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Version: 0.03-A

UEE505xx Diploma of Electrotechnology Systems

Modification History

Release	Comments
1	This qualification was first released in UEE Electrotechnology Training Package Release [##.#].

Qualification Description

This qualification prepares learners to apply a broad theoretical and technical knowledge base, together with specialised skills, to plan, implement and manage work functions in the electrotechnology sector. Individuals in these roles lead and oversee the design, installation, commissioning, and maintenance of electrotechnology systems and equipment in commercial and industrial environments, working within relevant legislation, standards and codes of practice.

Learners develop and apply specialised skills through elective groupings that support different technical focus areas within electrotechnology, applying advanced technical problem solving to address complex operational requirements across energy-related industries.

Graduates work as paraprofessionals who exercise autonomy, judgement and responsibility for their own work and that of others within defined projects or technical teams and are prepared for roles such as lead electrotechnology technician or technical project supervisor.

Licensing/Regulatory Information

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

Foundation Skills Outcomes

The foundation skills outcomes in this qualification are outlined below.

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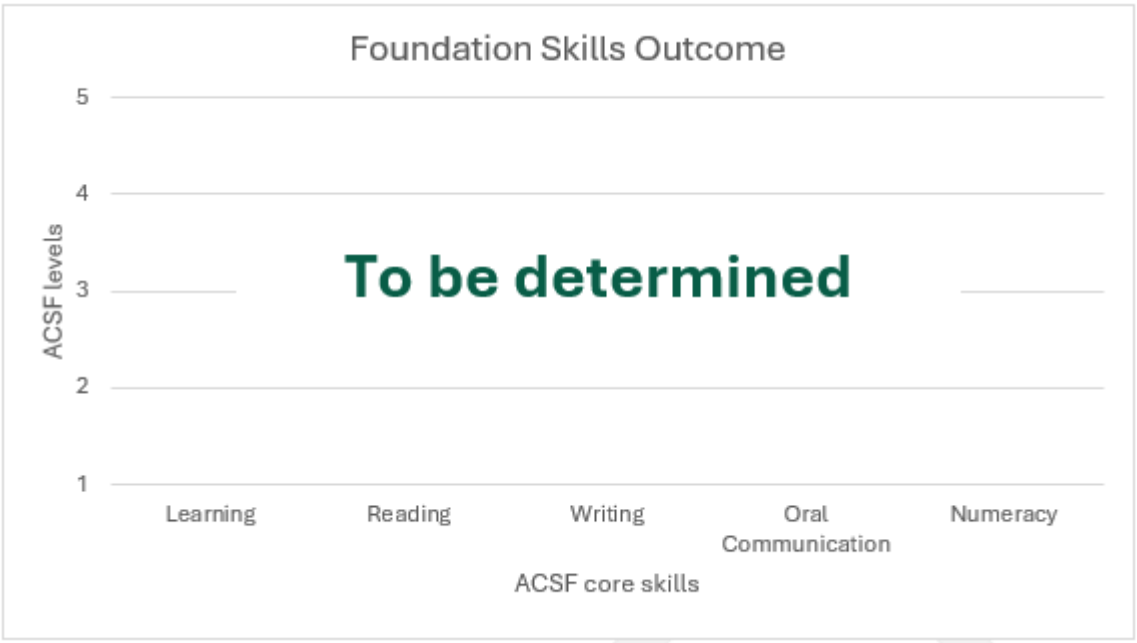

Digital literacy is considered as essential foundation skills required to participate effectively in vocational education and training in the energy sector.

Digital literacy (to be determined)

Note: Separate assessment of foundation skills is not required. These outcomes are implicit in the successful completion of the units.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

A total of 22 units comprising:

12 core units plus

10 elective units, of which:

Learners must focus on a specific occupational outcome by completing the core and elective units from one of the following:

- Leadership and Management = 12 core units, 6 Group B units, the remaining 4 units may be from any of the elective groups in this qualification
- First Nations Engagement = 12 core units, 4 Group C units, the remaining 6 units may be from any of the elective groups in this qualification
- Project Management = 12 core units, 3 Group D units, the remaining 7 units may be from any of the elective groups in this qualification
- Renewable Energy = 12 core units, 6 Group E units, the remaining 4 units may be from any of the elective groups in this qualification

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- Instrumentation & Control = 12 core units, 6 Group F units, the remaining 4 units may be from any of the elective groups in this qualification
- Electronic Systems = 12 core units, 6 Group G units, the remaining 4 units may be from any of the elective groups in this qualification
- Radio Communications = 12 core units, 6 Group H units, the remaining 4 units may be from any of the elective groups in this qualification
- Computer Systems = 12 core units, 6 Group I units, the remaining 4 units may be from any of the elective groups in this qualification
- Data Centres = 12 core units, 6 Group J units, the remaining 4 units may be from any of the elective groups in this qualification
- up to 2 general elective units may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course at this AQF Level and provided the selected units contribute to the vocational outcome of this qualification.

Where units are included to meet more than one specialisation, multiple specialisations can be achieved, with each specialisation bracketed separately, e.g., Diploma of Electrotechnology Systems (Radio Communications) (Electronic Systems). Multiple specialisations must meet industry-recognised occupational needs.

Core units

BSBTWK502	Manage team effectiveness
UEEBP3017	Plan, procure and quote for electrotechnology installation and service work
UEEBP4001	Estimate electrotechnology projects
UEEBP4013	Prepare specifications for the supply of materials and equipment for electrotechnology projects
UEEBP50xx	Manage electrotechnology quality systems
UEECD4010	Compile and produce an energy sector detailed report*
UEECD4013	Develop and implement energy sector maintenance programs*
UEECD5007	WHS/ OHS, legislation, standards, & sustainability
UEECD5039	Perform electromechanical calculation & analyses
UEECD5060	Write specifications for electrotechnology engineering projects*
UEEFS50xx	Identify and apply knowledge of the electrotechnology sector*
UEEFS50xx	Apply knowledge of fundamental electrotechnology principles*

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Group A: General Electives

BSBESB402	Establish legal and risk management requirements of new business ventures
BSBESB403	Plan finances for new business ventures
BSBESB407	Manage finances for new business ventures
UEECD4030	Prepare electrotechnology/utilities drawings using manual drafting and CAD equipment and software
UEECD4031	Prepare engineering drawings using manual drafting and CAD for electrotechnology applications
UEECD4032	Produce detailed electrotechnology/utilities drawings using CAD equipment and software
UEECD5001	Analyse materials for suitability in electrical equipment
UEECD5002	Analyse static and dynamic parameters of electrical equipment
UEEEC5001	Analyse the performance of wireless-based electronic communication systems
UEEEL4040	Develop compliance policies and plans to conduct an electrical contracting business

Group B: Leadership and Management

BSBCRT511	Develop critical thinking in others
BSBLDR523	Lead and manage effective workplace relationships
BSBSTR501	Establish innovative work environments
BSBSTR502	Facilitate continuous improvement
BSBSUS511	Develop workplace policies and procedures for sustainability
UEEBP5014	Prepare tender submissions for electrotechnology projects

Group C: First Nations Engagement

UEERE50xx	Apply cultural protocols and engagement practices with First Nations communities
UEERE50xx	Implement First Nations procurement practices in clean energy projects*

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UEERE50xx	Apply First Nations Cultural and Intellectual Property principles in clean energy projects*
UEERE50xx	Facilitate First Nations clean energy project governance and benefit sharing*

Group D: Project Management

UEEBP5014	Prepare tender submissions for electrotechnology projects
UEECD6029	Plan electrotechnology projects
UEECD5054	Write specifications for electronics and communications engineering projects

Group E: Renewable Energy

UEEFS50xx	Identify and apply principles of renewable energy
UEERE4055	Conduct site survey for off-grid photovoltaic/generating set systems
UEERE4056	Coordinate maintenance of renewable energy apparatus and systems
UEERE5066	Develop effective engineering strategies for energy reduction in buildings
UEERE4083	Maintain safety and tidiness of remote area power supply systems
UEERE5084	Manage renewable energy projects
UEERE5085	Plan renewable energy projects
UEERE4088	Work safely with remote area power supply systems

Group F: Instrumentation and Control

UEEFS50xx	Identify and apply principles of instrumentation and control systems
UEEIC4014	Develop, enter and verify programs in supervisory control and data acquisition systems
UEEIC4025	Provide solutions to extra-low voltage electro-pneumatic control systems and drives
UEEIC5005	Configure and maintain industrial control system networks
UEEIC5006	Design and configure human-machine interface networks
UEEIC5010	Develop and test code for microcontroller devices

Group G: Electronic Systems

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UEEFS50xx	Identify and apply principles of electronic systems
UEEEC5010	Design and develop advanced digital systems
UEEEC5013	Design electronic printed circuit boards
UEEEC5016	Develop engineering solutions to radio frequency amplifier problems
UEEEC5017	Develop engineering solutions to analogue electronic problems
UEEEC5018	Develop engineering solutions to audio electronic problems

Group H: Radio Communications

UEEFS50xx	Identify and apply principles of radio communication systems
UEEEC5007	Commission electronics and communications systems
UEEEC5010	Design and develop advanced digital systems
UEEEC5013	Design electronic printed circuit boards
UEEEC5016	Develop engineering solutions to radio frequency amplifier problems
UEEEC5017	Develop engineering solutions to analogue electronic problems
UEEEC5044	Modify - redesign electronics and communications systems

Group I: Computer Systems

UEFS50xx	Identify and apply principles of industrial computer systems
UEECS5004	Commission industrial computer systems
UEECS5007	Design and implement networked systems
UEECS5012	Design embedded controller control systems
UEECS5017	Develop industrial control programs for microcomputer equipped devices
UEECS5019	Develop, implement and test object-oriented code
UEECS5025	Modify/redesign industrial computer systems

Group J: Data Centres –

UEENS50xx	Insert new units resulting from PSO's Data Centre research project

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Pre-requisite Requirements

There are units of competency within this qualification that contain pre-requisites. Units of competency that have a pre-requisite requirement are identified by this symbol *. Refer directly to the units of competency to identify pre-requisite requirements to ensure all are complied with. A list of all pre-requisites is also provided in the UEE Electrotechnology training package pre-requisite companion volume.

Where imported units are selected, care must be taken to ensure all pre-requisite units specified are complied with.

Mandatory Workplace Requirements

There are no mandatory workplace requirements associated with units packaged in this qualification.

Qualification Mapping Information

Previous Code and Title	Equivalence	Comments
UEE50122 Diploma of Computer Systems Engineering	Not equivalent	This qualification has been created through the consolidation of existing qualifications to provide structured specialisation pathways within a single qualification.
UEE50520 Diploma of Electronics and Communications Engineering	Not equivalent	
UEE51020 Diploma of Instrumentation and Control Engineering	Not equivalent	

Links

Companion volumes, including implementation guides, are found on the national training register –

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