National Certificate in Electrical Engineering (Level 2)

Level **2**

Credits **44**

This qualification has been **revised**. The last date to meet the requirements is 31 December 2021.

Transition Arrangements

Version 8 of this qualification was republished to extend the last date for entry from 31 December 2016 to 31 December 2017.

This qualification has been reviewed and replaced by the New Zealand Certificate in Electrical Engineering Theory (Level 3) [Ref: 2387].

The last date for entry into programmes leading to this qualification is 31 December 2017.

For detailed information see Review Summaries on the NZQA website.

NZQF National Qualification Registration Information

Process	Version	Date	Last Date for Assessment
Registration	1	July 1996	December 2004
Revision	2	September 1996	December 2004
Review	3	July 1997	December 2004
Review	4	August 1999	December 2007
Revision	5	September 1999	December 2007
Review	6	September 2005	December 2010
Revision	7	October 2008	December 2021
Review	8	November 2014	December 2021
Republication	8	June 2016	December 2021

Standard Setting Body

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National Certificate in Electrical Engineering (Level 2)

Level **2**

Credits **44**

Purpose

This is an introductory certificate for people wishing to pursue employment and further training in the electrical and related industries. It is the first stage of training programmes leading to qualifications as an electrician, or in switchgear fitting, motor rewinding and repair, industrial measurement and control, electronic security and related trades. Typically these programmes take three to four years, with this qualification normally being gained in the first year. This qualification may also be used as the basis for a pre-trade course prior to employment in the above industries.

Holders of the qualification have a fundamental knowledge of:

- principles of electricity and magnetism;
- capacitors and semiconductors;
- simple electrical diagrams;
- simple mathematics and mechanics;
- simple electrical instruments and measurements;
- the installation of flexible cords;
- soldering of wires and components;
- the use of safeguards with portable appliances;
- first aid and cardio-pulmonary resuscitation;
- electrical safe working practices and safety testing; and
- basic employment rights and responsibilities.

The qualification has credits in common with, and can lead to, the National Certificate in Electrical Engineering (Level 3) [Ref: 0223]. Alternatively this qualification can lead to the National Certificates in Electrical Engineering (Switchgear Fitter) (Level 3) [Ref: 0933]; Electrical Engineering (Motor Rewinding and Repair) [Ref: 0412]; Industrial Measurement and Control (Level 4) [Ref: 0410]; and Electronic Security (Installer) (Level 3) [Ref: 1102].

Special Notes

Entry is open. However, it is recommended that the trainee has a minimum of 10 credits at level 1 or above in mathematics and/or physics or equivalent knowledge.

Credit Range

Level 1 credits	3
Level 2 credits	41
Total	44

Requirements for Award of Qualification

Award of NQF Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in section 7 of the New Zealand Qualifications Authority (NZQA) Rules and Procedures publications available at http://www.nzqa.govt.nz/ncea/acrp/index.html.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (ID). Any version of a standard with the same ID may be used to meet qualification requirements that list the ID and/or that specify the past or current classification of the standard.

Summary of Requirements

- Compulsory standards

Detailed Requirements

Compulsory

The following standards are required

Core Generic > Core Generic > Work and Study Skills

ID	Title	Level	Credit
1978	Identify basic employment rights and responsibilities, and sources of information and assistance	1	2

Engineering and Technology > Electrical Engineering > Core Electrical

ID	Title	Level	Credit
750	Demonstrate knowledge of electrical test instruments and take measurements	2	2
15844	Select and install flexible cords	2	3
15845	Draw and explain simple electrical diagrams	2	4
15846	Demonstrate knowledge of capacitors and semiconductor diodes	2	3
15847	Demonstrate knowledge of mathematics and mechanics for electrical trades	2	4
15848	Demonstrate knowledge of safeguards for use with portable electrical appliances	2	2
15849	Perform manual soldering and de-soldering procedures for electrotechnology work	2	2
15851	Demonstrate knowledge of electrical safety and safe working practices for electrical workers	2	3
15852	Isolate and test low-voltage electrical subcircuits	2	2
25070	Explain the properties of conductors, insulators, and semiconductors and their effect on electrical circuits	2	7

ID	Title	Level	Credit
25071	Demonstrate knowledge of electromotive force (e.m.f.) production	2	3
25072	Demonstrate knowledge of electromagnetism theory	2	5

Health > Health Studies > Core Health

ID	Title	Level	Credit
6401	Provide first aid	2	1
6402	Provide resuscitation level 2	1	1

Transition Arrangements

Version 7

Version 7 was issued following a revision in order to include new magnetism and electricity unit standards 25070-25072, which replaced expiring standard 15843 to improve assessability.

Trainees may either complete the requirements of version 6 of the qualification or transfer to version 7.

All new trainees will be enrolled in programmes leading to version 7 of the qualification.

For detailed information see Review Summaries on the NZQA website.

This qualification contains standards that replace an earlier standard. For the purposes of this qualification, people who have gained credit for the expiring standard are exempt from the requirement to gain credit for the replacement standards – see table below.

Credit for	Exempt from
15843	25070, 25071, 25072

It is not intended that anyone is disadvantaged by this revision and the above arrangements have been designed for a smooth transition. However, anyone who feels they have been disadvantaged appeal to ElectroTechnology Industry Training Organisation at the address below.

Previous versions of the qualification

Version 6 was issued following the review of the Electrical Engineering standards resulting in standards 1277 and 2780 being removed, title changes to standards 6402, 15846, 15849, 15851, and 15852, and a decrease in credit value from 52 to 44.

Version 5 was issued in order to extend the transition arrangements to include 1177.

Version 4 was issued to reflect the electrical industry review of competency training in 1998, during which many standards were revised or combined and new ones introduced. Changes to structure and content included: rationalisation of the content; removal of duplication of outcomes; a reduction in core generics and electronics standards; and the minimum total of credits decreased from 62 to 52.

Version 3 was issued following a review.

Version 2 was issued following a revision.

Other standard setting bodies whose standards are included in the qualification

NZQA

Certification

This certificate will display the logo of NZQA, the ElectroTechnology Industry Training Organisation and the accredited organisation.

Classification

This qualification is classified according to the NQF classification system and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

DAS Classification		**NZSCED**	
Code	**Description**	**Code**	**Description**
204	Engineering and Technology > Electrical Engineering	031301	Engineering and Related Technologies > Electrical and Electronic Engineering and Technology > Electrical Engineering

Quality Management Systems
Providers and Industry Training Organisations must be accredited by a recognised Quality Assurance Body before they can register credits from assessment against standards. Accredited providers and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Accreditation requirements and the moderation system are outlined in the associated Accreditation and Moderation Action Plan (AMAP) for each standard.

Prerequisite Diagram