



New Zealand Certificate in Electrical Pre-Trade Level 3

This one year certificate is your entry to gaining an electrical apprenticeship. You will learn all the essential skills to help you become a qualified electrician.

You will learn how to:

- apply fundamental knowledge and principles of electrical theory and practice, including electrical protection, to the installation and maintenance of electrical systems and equipment.
- apply fundamental knowledge of fault diagnosis and testing techniques of electrical systems and equipment.
- apply safe working procedures and practices, and identify and report electrical and other hazards.
- ensure your own activities are within legal limitations of the electrical legislation.
- apply fundamental knowledge and principles to the installation and maintenance of electrical machines.
- apply fundamental knowledge and principles to the installation and maintenance of electrical equipment in special electrical situations.
- work ethically and professionally within the electrical industry, as an electrical apprentice, including maintaining current competency and communicating with stakeholders on electrical and related matters.

PROGRAMME INFORMATION

CEE3.001

Electrical workplace practice

Apply knowledge of electrical safety and safe working practices for electrical workers; Demonstrate knowledge of legislation and Standards governing electrical workers; Demonstrate knowledge of the electrical industry ethical work practices; Demonstrate and apply knowledge of safe plant isolation, re-commissioning, and associated electrical testing procedures. First Aid. Units 29465, 26466, 29467, 29468, 6401 and 6402

CEE2.002

Electric current fundamentals

Explain the properties of conductors, insulators, and semiconductors and their effect on electrical circuits; Demonstrate knowledge of electromotive force (e.m.f.) production; Apply electromagnetic theory to a range of problems. Units 25070, 25071, 25072

CEE2.003

Installation fundamentals

Demonstrate knowledge of electrical test instruments and take measurements, isolate and test low-voltage electrical subcircuits; Demonstrate and apply knowledge of and the procedures for the examining of and testing of electrical installations; Select and install flexible cords and cables; Demonstrate knowledge of electric motor and generator construction and operation; Demonstrate knowledge of electric switchboards and lighting and power circuits. Units 750, 15852, 15866, 29469, 29470, 29471

CEE3.004

Electrical applications

Demonstrate knowledge of electric lighting systems; Demonstrate knowledge of single-phase and three-phase transformers; Demonstrate and apply knowledge of electrical fittings and components and their installation. Units 29472, 29473, 29474

CEE3.005

Electricity systems

Demonstrate and apply knowledge of electronics; Demonstrate and apply knowledge of capacitance, inductance, power factor, and power factor correction. Units 29475, 29476

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Programme Specific Information

The purpose of this qualification is to provide the electrical industry with people who have introductory knowledge that underpins safe electrical installation, testing, commissioning, and servicing of electrical installations and equipment.

The qualification provides pre-entry foundation knowledge of electrical engineering and is suitable for those who wish to enter the industry and who do not yet have an electrical apprenticeship agreement.

Career Options

Electrical apprenticeship leading to full registration as an electrician or a step towards an electrical engineering diploma.

PROGRAMME INFORMATION

CEE4.006

Electricity supply and distribution

Demonstrate knowledge of earthing; Demonstrate knowledge of protection of circuits from static electricity and magnetic interference; Demonstrate and apply knowledge of safeguards for use with portable electrical appliances; Demonstrate knowledge of the New Zealand national electricity grid and associated electrical protection; Demonstrate knowledge of electrical installations in special situations. Units 1204, 5932, 15848, 29477, 29478

CEE3.007

Circuit design and operation

Draw and explain electrical diagrams; Demonstrate knowledge of electric circuit design, control, and protection; Apply knowledge of lighting installation, testing, repair, and disposal. Units 29479, 29480, 29481

CEE3.008

Electrical machines

Demonstrate knowledge of circuit protection; Demonstrate and apply knowledge of special power supplies; Demonstrate and apply knowledge of single-phase and three-phase rotating machines; Demonstrate knowledge of theory and practice for electrical workers; Apply fundamental techniques for identifying and locating faults in electrical fittings or systems. Units 15855, 29482, 29483, 29484, 29557

Programme Fees and Additional Expenses

Programme Fees

See website for domestic and international prices.

Additional Expenses

Stationery, pens, pencils, lined refill - approx \$20

Calculator preferably FX82AU*11 (Scientific calculator) - \$40

A laptop or tablet is also recommended.

Security provisions and insurance cover is the responsibility of the students.

WITT accepts no responsibility for the loss or damage of tools and equipment.