

New Zealand Certificate in Electronic Security (Level 4)

Course Outline

If you are looking to start a career in the electronic security industry, then this is a good starting point for you. It's also a great next step if you hold the NZC in Electrotechnology (Level 3).

By gaining this qualification you'll be able to supervise staff on mid to large sized projects in the electronic industry, create electronic security solutions for your clients as well as provide site-wide leadership and manage relationships with stakeholders.

Learners doing the core certificate in Electronic Security also have the option to enrol in one of the following additional strands:

- Electrical Appliance Serviceperson (endorsed)
- Electrical Installer

Topics covered for trainees of NZC Electronic Security Level 4:

- Professional and technical knowledge for emerging and converging technologies
- Advanced health & safety
- Installation of cable support systems
- Theory of electronic security system design
- Theory and development of data networking to support electronic security systems
- Advanced application of stakeholder engagement principles
- Diagnosis and repair of faulty electronic security systems
- Develop solutions for electronic security intruder alarm systems

Compulsory topics for people doing the optional **Electrical Appliance Serviceperson (endorsed) strand**

- Knowledge and practical application for EWRB registration as an electrical appliance serviceperson EAS (endorsed)
- Servicing electrical or electronic goods

Compulsory topics for people doing the optional **electrical installer strand**

- Servicing electrical or electronic goods
- Theory and practice for registration of electrical workers
- Knowledge and theory for EWRB registration for electrical installer or electrician

Course Structure

Part-Time: 3 years (or can be completed in 2 years if you already hold the NZC in Electrotechnology (Level 3))

Blended Learning: This course is made up of both online theory learning and practicals, there are 15 modules in total. Learners will use naturally occurring evidence from the workplace (i.e. job cards, service report) verified by the supervisor or manager

Intakes: Course intakes occur on a monthly basis from February through to November

Block courses: Learners doing the optional EASQ or Installer strand will have three block courses in year three.

- Regulations and Theory course are 1-week block course each delivered virtually from Monday to Friday (8.30am to 4.30pm) or 10-night sessions over 10 weeks from 5.15pm to 9.15pm (100% attendance required). Learner can pass their exam in any Aspeq centre.
- The Stage 1,2,3 practical is delivered at E-tec campus (Auckland) from Monday to Friday (8.30am to 4.30pm). Please note that travel and accommodation are not covered by MIT.

Workplace Verification

Businesses who employ a learner on this course will look after their on-job practical work. Each piece of work needs to be verified by a Workplace Verifier. This person is someone within the business who has appropriate experience and can verify that the work being submitted is true, accurate, and performed by the learner. For the EASQ and Installer strand, a current EWRB practising license, is also required.

The primary responsibility of a supervisor when supervising a trainee is to take all practicable steps to ensure that:

- the work is carried out competently
- while the work is being undertaken, appropriate safety measures are adopted
- the completed work is performed in accordance with the requirements of the Electricity Act 1992 and the Electricity (Safety) Regulations 2010 *where appropriate*

E-tec is here to help

E-tec is dedicated to helping each of their learners succeed. Students can contact their tutor over the phone, videoconference or by email for assistance.

Qualification

Graduates of the Core only will be awarded the New Zealand Certificate in Electronic Security (Level 4).

Graduates of the EASQ strand will be awarded the New Zealand Certificate in Electronic Security with optional strand in Electrical Appliance Serviceperson (Endorsed) (Level 4).

Graduates of the Installer strand will be awarded the New Zealand Certificate in Electronic Security with optional strand in Electrical Installer (Level 4).

Graduates of the EASQ or Installer strand will be eligible to be registered and licensed as an Electrical Appliance Serviceperson (endorsed to disconnect and connect) (EAS endorsed) or Electrical Installer.

Prerequisite Requirements

Applicants must hold a NZ residency, permanent residency, or citizenship.

They must be employed in the Electronic Security industry and have a supervisor holding a current EWRB practising licence at least of the same level of registration than the one you apply for.

They must also hold NCEA Level 1:

- 10 credits in Mathematics; and
- 10 credits in English; and
- 14 credits in General Science or Physics
- Or equivalent Outcome of Course or experience.

English Language entry requirement: Applicants must have sufficient competence in the English language to undertake this programme which is taught and assessed in English. This will be demonstrated by meeting the current NZQA requirements.

For the minimum English language requirements refer to the following website: <https://www.nzqa.govt.nz/about-us/our-role/legislation/nzqa-rules/nzqf-related-rules/the-table/>

Students aged 20+ years who do not hold the minimum entry requirements for a programme will be eligible to enrol as a student where their previous educational, work or life experience indicate that they have a reasonable likelihood of success. Students under the age of 20 who do not hold the required minimum entry requirements for a programme may also be eligible to enrol in exceptional circumstances. Such decisions will be made by the Director/Head of School.

Course Costs

This course qualifies for the Government's Fees Free* www.feesfree.govt.nz policy until December 2022. You must be a New Zealand resident to qualify for Fees free.

This NZC in Electronic Security L4 does not qualify for the Government funded Apprenticeship boost.

*Funding is confirmed for the first year only. Funding for years two and three is not guaranteed and is dependent upon TEC.

RPL or Credit Transfer

If you wish to apply for recognition of prior learning, please apply directly to MIT prior to enrolling into the qualification: <https://www.manukau.ac.nz/study/recognition-of-prior-learning>

MIT charges for this service and it may take a few weeks for your application to be processed.

If you wish to apply for credit transfer (from NZC in Electrotechnology L3 or NC in Electronic Security L3 latest version), please advise when enrolling.

Course Enrolment

This course is delivered in partnership between E-tec and the Manukau Institute of Technology (MIT). Enrolments are collected through E-tec by Carine Vaccari on carinev@etec.ac.nz or 022 568 6671 and will be confirmed by MIT.

Enquiries

For any enquiries please contact:

Carine Vaccari
carinev@etec.ac.nz
022 568 6671

Or call our office on:
0800 030 500
www.etec.ac.nz

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Year 1

531.332	Basic Health & Safety	Demonstrate knowledge of the safety management, risk assessment and control measures of workplace hazards, in an electrotechnology environment
		Demonstrate knowledge of the Health and Safety at Work Act in relation to working in special environments and locations
		Apply knowledge of initial response to accidents involving electricity
		Identify and apply safety practices in hazard control in special environments and locations
531.333	Electronic security related legislation, codes of practice and standards	Demonstrate knowledge of current standard setting bodies
		Demonstrate knowledge of standards and codes of practice
		Demonstrate knowledge of the Certificate of Approval
531.334	Theory of electrical principles	Demonstrate knowledge of electrical conductors, insulators, semiconductors, and methods for e.m.f. production.
		Demonstrate knowledge of magnets, magnetism, and the application of magnetism to the generation of a.c. and d.c.
		Demonstrate knowledge of resistors and capacitors used in simple circuits
		Demonstrate knowledge of semiconductor diodes
		Analyse and calculate values in simple a.c. and d.c. circuits.
Demonstrate knowledge of the supply of electricity in New Zealand and the use of the MEN (Multiple Earth Neutral) system of supply.		
531.335	Theory of electronic security systems, equipment, and devices	Demonstrate knowledge of the purpose and application of: <ul style="list-style-type: none"> - electronic intruder alarm system devices - electronic access control system devices - surveillance system devices - intercom system devices
		Demonstrate knowledge of the general operating principles, features and purpose of components of: <ul style="list-style-type: none"> - electronic security intruder alarm components - electronic security access control components - electronic security surveillance systems - intercom systems
531.336	Basic knowledge and application of stakeholder engagement	Demonstrate knowledge of ethical behaviour requirements with regards to customer details and data.
		Demonstrate knowledge of communication and service techniques to manage tensions during stakeholder engagement

		Communicate with Stakeholders
531.337	Installation of electronic security systems (2 systems required)	Demonstrate knowledge of 2 different systems from: electronic security alarm systems; installation of access control components; surveillance system components or security intercom systems installation
		Install, programme, test, commission and handover 2 different systems from: simple alarm systems; simple access control systems, surveillance systems or intercom systems, to manufacturers specifications and client requirements.

Year 2

531.338	Servicing and repair of basic low voltage customer premise systems	Demonstrate knowledge of static electricity, resulting damage to semiconductors, and techniques to minimise electrostatic discharge
		Demonstrate knowledge of battery testing and selection of batteries and appropriate chargers for electronic applications
		Demonstrate knowledge of electrical measuring and test instruments
		Demonstrate of oscilloscope use and application
		Replace or repair faulty components or modules to restore subsystems on systems, hardware, and related ICT systems and services to operation
		Ensure regulatory compliance while working on access systems
531.403	Professional and technical knowledge for emerging and converging technologies	Enhance personal, professional, and technical knowledge of the electronic security industry from external sources
		Demonstrate knowledge of emerging or converging technologies that may be applied in the New Zealand electronic security industry
531.404	Advanced health and safety	Demonstrate and apply knowledge of the requirements and associated responsibilities of Acts, Regulations, Standards, codes of Practice, and Bylaws that impact on electrotechnology workplaces
		Implement and maintain safety management practices for workplace hazards, and a risk assessment strategy in an electrotechnology environment
		Implement and maintain procedures to mitigate environmental impacts in an electrotechnology environment
		Investigate industry relevant incidents
531.405	Installation of cable support systems	Install electronic security cable support systems in both accessible and difficult locations.
		Install cables on, or in, cable support systems
		Penetrate cable barriers
		Demonstrate knowledge of drawing types used in electronic security installations, and in building and construction.
		Identify and show usage of symbols used in electronic security installations

		Use drawings to plan an electronic security installation and update drawings to reflect change
531.406	Theory of electronic security system design	Demonstrate knowledge of evaluation requirements to mitigate risks in an electronic security scenario
		Demonstrate knowledge of electronic security intruder alarm system design
		Demonstrate knowledge of electronic security access control system design
		Demonstrate knowledge of electronic security surveillance system design
		Demonstrate knowledge of integrated electronic security power supply system design
		Demonstrate knowledge of wireless technology as used in a security system design
531.407	Theory and development of data networking to support electronic security systems	Demonstrate knowledge of data cabling used to support data networking applications
		Demonstrate basic knowledge of radio transmission principles
		Demonstrate basic knowledge of unlicensed wireless networks.
		Demonstrate knowledge of the TCP/IP protocol suite and IP addressing
		Demonstrate knowledge of data network topologies, architectures, and hardware components
		Confirm client's data networking support system requirements
		Select data networking system type and components to support electronic security systems
		Lead the installation, commissioning, and handover of data networking system
531.408	Advanced application of stakeholder engagement principles	Evaluate behaviours and causes and apply appropriate communication and service techniques to manage tensions during stakeholder tension
		Develop and communicate a plan of action for supervised technical staff within an electrotechnology environment
		Select and apply negotiation techniques appropriate to stakeholders

Year 3

531.409	Diagnosis and repair of faulty electronic security systems	Demonstrate knowledge of techniques to identify the location and cause of faults, in security systems equipment and diagnostic equipment used in fault location for security systems
		Demonstrate knowledge of sources of additional information to assist with fault remedies
		Demonstrate knowledge of managing customer relationships when performing system repairs
		Prepare to diagnose and repair electronic security systems
		Diagnose faults in electronic security systems
		Repair and test equipment

		Complete post-repair procedures
531.410	Develop solutions for electronic security systems (2 systems required)	Confirm client requirements for 2 electronic security systems from: access control systems; intruder alarm systems; surveillance systems or intercom systems, and select applicable components and devices
		Lead the installation, commissioning and handover of 2 types of electronic systems from: access control systems, intruder alarm systems, surveillance systems or security intercom systems

Optional Strands modules

531.411	Knowledge and practical application for EWRB registration as an electrical appliance service	Demonstrate knowledge of fault codes and interface systems for diagnosing faults
		Demonstrate knowledge of basic techniques to identify the location and cause of faults in electrical appliances or electronic products
		Demonstrate knowledge of the use of basic diagnostic equipment used for fault finding for service and installation technicians
		Demonstrate basic knowledge of maintenance and calibration requirements for fault finding, test, and diagnostic tools and equipment used in electrotechnology or telecommunications practice
		Undertake a diagnostic to identify and verify of faulty operation on end user appliances, goods and/or equipment
		Isolate end user appliances, goods and/or equipment for servicing
		Replace or repair faulty components, modules or subsystems on end user appliances, goods and/or equipment
		Complete operational testing and commissioning of end user appliances, goods and/or equipment
531.412	Servicing electrical or electronic goods	Apply knowledge of supervision procedures for trainees in accordance with the Rules of the Electrical Workers Registration Board (EWRB)
		Demonstrate and carry out health and safety practices in an electrical workplace
		Install and test electric motors, motor starters and electrical protection equipment
		Install, wire and test electrical projects, and discharge lighting and test existing single-phase and three-phase sub-circuit wiring
		Demonstrate and apply knowledge of single-phase leads, fittings and accessories, single-phase and three-phase motors and extension leads for industrial applications
		Demonstrate and apply knowledge to disconnect, test, and reconnect appliances or equipment
		Apply knowledge of soldering to electrical projects
		Demonstrate and apply knowledge of Residual Current Devices.
Design, install, and terminate energy regulators		

531.413	Theory and practice for registration of electrical workers	Demonstrate knowledge of supervision of trainees undertaking prescribed electrical work
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 1)
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 2)
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 3)
531.414	Knowledge and theory for EWRB registration for electrical installer or electrician	Demonstrate knowledge of supervision of trainees undertaking prescribed electrical work
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 1)
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 2)
		Demonstrate and apply knowledge of theory and practice for registration of electrical workers (stage 3)