



Aldabri 106 (Pty) Ltd t/a

Institute for Quality

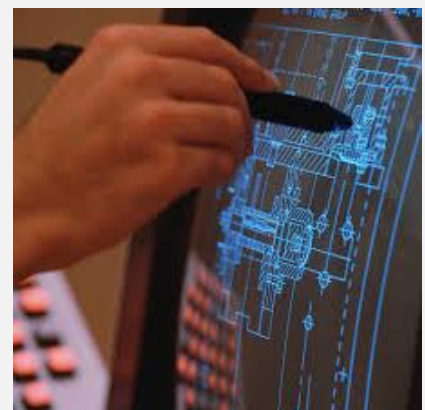
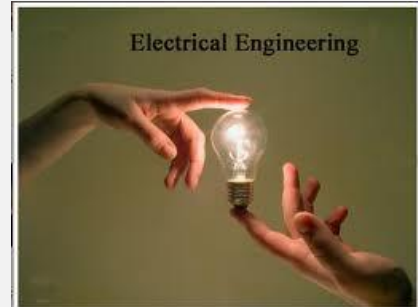
Education, Training and Development

ETDP - 0164

Learning for Life

**National
Certificate:
Electrical
Engineering
NQF Level 2**

**Course
Information**





Qualification:	National Certificate: Electrical Engineering
SAQA ID:	63789
Credits:	140
NQF Level:	2

This is the first of a three-level qualification series that reflect the workplace-based needs of the electrical field that is expressed by employers and employees, both now and for the future. This electrical engineering qualification provides the foundational competencies required to work on designated electrical circuits and installations. This qualification provides the learner with accessibility to be employed within the electrical engineering field and provides the flexibility to pursue different careers across various industry sectors and articulate within industries such as:

- √ Manufacturing and Engineering.
- √ Energy Sector.
- √ Mining.
- √ Chemical.
- √ Transport.
- √ Other related engineering industry sectors.

This qualification will enhance the status and productivity of the learner as well as contribute to improved quality, production rate and growth within relevant electrical sectors. The range of typical learners at this level could include individuals preparing to qualify in occupations or trades such as:

- √ Electrician.
- √ Domestic Appliance Repair.

This electrical engineering qualification provides the foundational competencies required to work on designated electrical circuits and installations. An intermediate set of skills to work on integrated circuits and installations would be acquired at NQF Level 3 with the learner able to work on integrated systems and installations and operate as a skilled worker performing Artisan duties in the electrical field upon graduating at NQF Level 4.

This qualification could assist with the achievement of national government and industrial development policies and strategies to grow a pool of scarce and other



related skills in support of sustainable economic growth. People working in the electrical engineering fields require specialized technical skills and knowledge in order to meet the requirements of continually changing environment of the various industries. Through its design, this qualification will meet the needs of learners within the electrical engineering sectors who require technical expertise and essential knowledge needed to earn formal qualifications. This qualification facilitates access for previously disadvantaged groups and other learners to acquire the technical knowledge and skills that are required as well as provide access and mobility into higher-level more specialised occupations. This will allow the learner greater employability and support the development of small and medium enterprises (SME).

The purpose of this qualification is to provide learners, education and training providers and employers with the standards and the range of learning required to work effectively within various industries, making use of electrical engineering knowledge and skills to meet the challenges of such an environment.

Qualifying learners will also be able to relate their learning to scientific and technological principles and concepts. They will also be able to maintain and support the various policies and procedures related to the safety, health, environment and quality systems that govern their workplace.

Qualifying learners at NQF Level 2 will be able to:

- √ Use engineering tools, measuring instruments and electrical technology.
- √ Read, interpret and produce basic electrical engineering drawings and circuits.
- √ Apply hand skills applicable to electrical installation and maintenance.
- √ Understand and apply basic electrical installation assembly techniques to install, maintain, repair, overhaul or recondition designated circuits, electrical machines and sub-components.
- √ Understand basic electrical theory and the application in relation to the maintenance and function of machines.

With this understanding, learners will be able to participate in workplace activities. The foundational learning in this Qualification would serve as a basis for further learning where they will engage in more advanced installation, maintenance and repair activities.



Assessment

- √ Learners will be required to write an integrated summative assessment, for each module.
- √ Learners will be expected to compile a portfolio of evidence, which comprise all learning activities, assignment and projects.
- √ A logbook must be completed during the work-integrated learning.

RPL

IQ has a well-designed toolkit to RPL persons against this qualification. If you have worked in a management role for at least 4 years, you could have your competencies measured and get awarded the qualification.

Course outline

	ID	UNIT STANDARD TITLE	NQF	CREDITS
Core	258925	Apply and maintain safety in a working environment	Level 02	5
Core	258932	Apply soldering techniques	Level 02	2
Core	258935	Design and construct a single phase circuit	Level 02	5
Core	12466	Explain the individual's role within business	Level 02	4
Core	259017	Identify, inspect, clean and maintain electrical rotating machines	Level 02	6
Core	258957	Identify, inspect, use, maintain and care for engineering hand tools	Level 02	6
Core	258960	Install electric wire ways	Level 02	6
Core	258942	Install luminaires	Level 02	4
Core	258919	Install or replace electrical metering units or measuring instrument	Level 02	4
Core	258921	Install, join and terminate Low Voltage cables and conductors	Level 02	8
Core	258937	Install, maintain or replace Low Voltage distribution boards, protection devices and components	Level 02	6
Core	258962	Maintain transformers	Level 02	5
Core	9881	Mark off basic regular engineering shapes	Level 02	6



Core	258918	Select, use and care for electrical measuring and testing instruments	Level 02	4
Core	10255	Select, use and care for power tools	Level 02	5
Core	258967	Understand fundamentals of electricity	Level 02	8
Fundamental	119463	Access and use information from texts	Level 02	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 02	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 02	3
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 02	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 02	5
Fundamental	119460	Use language and communication in occupational learning programmes	Level 02	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 02	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 02	5
Fundamental	119456	Write/present for a defined context	Level 02	5
Elective	12465	Develop a learning plan and a portfolio for assessment	Level 02	6
Elective	10234	Install low voltage transformers	Level 02	6
Elective	12484	Perform basic fire fighting	Level 02	4
Elective	12483	Perform basic first aid	Level 02	4
Total Credits				140