



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Fundamentals Of Electricity For Beginners Training

Physical Planning and Construction / Electrical Infrastructure Construction

Unit Standard 113877 · NQF Level 2 · 8 Credits · 5 Days

COURSE OVERVIEW

This course provides a foundational understanding of electrical principles, safety practices, and basic circuit theory for beginners. Participants will gain the knowledge and skills to work safely with electricity in domestic and light industrial settings.

Category	Physical Planning and Construction
Subfield	Electrical Infrastructure Construction
Unit Standard	113877
Accreditation	SAQA Accredited · NQF Level 2 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Explain fundamental electrical concepts such as voltage, current, resistance, and power.
- Apply Ohm's Law and Kirchhoff's Laws to solve simple DC circuit problems.
- Identify and describe the function of common electrical components (resistors, capacitors, switches, fuses).
- Demonstrate safe working practices when handling electrical equipment and circuits.
- Interpret basic electrical diagrams and schematics.
- Perform basic measurements using a multimeter (voltage, current, resistance).

WHO SHOULD ATTEND

- This course is ideal for maintenance staff, handymen, apprentices in electrical trades, and anyone seeking a safe entry-level understanding of electricity.

COURSE OUTLINE

Day 1: Introduction to Electricity and Basic Concepts

- What is electricity? (atoms, electrons, charge)
- Conductors, insulators, and semiconductors
- Electric circuits: open, closed, and short circuits
- Voltage, current, and resistance: definitions and units
- Ohm's Law: $V=IR$ and its applications
- Electrical power: $P=VI$ and energy calculations

Day 2: Circuit Analysis and Measurement

- Series circuits: characteristics and calculations
- Parallel circuits: characteristics and calculations
- Series-parallel combination circuits
- Kirchhoff's Voltage and Current Laws
- Introduction to circuit simulation software
- Electrical measurements: using a multimeter safely

Day 3: Electrical Components and Safety

- Resistors, capacitors, inductors: symbols and functions
- Electromagnetic induction and transformers
- Switches, relays, and contactors
- Protection devices: fuses, circuit breakers, and RCDs
- Earthing and bonding
- Electrical safety: lockout/tagout, PPE, and safe working practices

Day 4: Alternating Current (AC) and Power Systems

- AC vs DC: waveform, frequency, amplitude
- Single-phase systems: voltage, current, and power
- Three-phase systems: star and delta configurations
- Power factor and its correction
- Electrical installation components: distribution boards, wiring, sockets
- Introduction to renewable energy systems (solar, wind)

Day 5: Practical Applications and Troubleshooting

- Reading and interpreting electrical diagrams
- Wiring a lighting circuit with switches
- Troubleshooting common faults: open circuit, short circuit, overload
- Use of test instruments for fault finding
- Overview of SANS 10142-1 (Wiring of Premises)
- Career pathways in electrical engineering

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **8 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 23,000.00	R 23,000.00
1	In-House	R 29,900.00	R 29,900.00
1	On-Campus (Pretoria)	R 34,500.00	R 34,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Pretoria, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

- 1. Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 113877) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
- 2. Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
- 3. Apply by phone or WhatsApp:** call +27 12 004 8389 or WhatsApp +27 65 077 6310 and we will prepare your quotation and reserve your seats.
- 4. Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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