



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

Safe Mechanical Electrical Work On Air Conditioning Refrigeration Ventilation Training

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 116241 · NQF Level 2 · 7 Credits · 4 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to perform safe mechanical and electrical work on air conditioning, refrigeration, and ventilation systems. It focuses on identifying hazards, implementing safety procedures, and ensuring compliance with relevant regulations. The training prepares participants to work confidently and safely in environments involving these systems.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	116241
Accreditation	SAQA Accredited · NQF Level 2 · 7 Credits
Duration	4 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply safety procedures and use personal protective equipment (PPE) when working on mechanical and electrical components of air conditioning, refrigeration, and ventilation systems.
- Identify potential hazards and assess risks associated with mechanical and electrical work on these systems.
- Demonstrate correct lock-out/tag-out procedures and isolation of energy sources before commencing work.
- Analyze and interpret technical diagrams, schematics, and manufacturer specifications to ensure safe work practices.
- Implement emergency response actions in the event of accidents, refrigerant leaks, or electrical incidents.
- Evaluate compliance with relevant occupational health and safety legislation and standards.

WHO SHOULD ATTEND

- This course is designed for technicians, maintenance personnel, and engineers who install, maintain, or repair air conditioning, refrigeration, and ventilation systems.
- It is also suitable for supervisors and safety officers overseeing such work.

COURSE OUTLINE

Day 1: Fundamentals of Mechanical and Electrical Safety

- Introduction to the Occupational Health and Safety Act (OHSA) and relevant regulations.
- Types of hazards: electrical shock, arc flash, mechanical moving parts, refrigerant exposure.
- Principles of lockout/tagout (LOTO) and zero energy state verification.
- Selection and inspection of PPE (gloves, goggles, insulated tools).
- Fire safety and emergency response basics.
- Safe work permits and risk assessment procedures.

Day 2: Electrical Systems and Safe Work Practices

- Reading electrical diagrams and control circuits.
- Safe use of test instruments: voltage, current, resistance measurements.
- Capacitor discharge procedures and safe handling.
- Wiring practices: terminations, cable management, and colour codes.
- Earth leakage protection and bonding.
- Troubleshooting common electrical faults safely.

Day 3: Mechanical Systems and Refrigerant Handling Safety

- Mechanical components: compressors, condensers, evaporators, expansion devices.
- Lockout procedures for rotating equipment and pinch points.
- Refrigerant safety: toxicity, flammability, and pressure dangers.
- Proper use of recovery machines and cylinders.
- Pressure testing and leak detection safety.
- Safe use of hand and power tools for mechanical work.

Day 4: Integrated Safety Practices and Practical Application

- Step-by-step safe isolation procedure for an HVACR system.
- Combined electrical and mechanical risk assessment.
- Practical exercise: LOTO, electrical testing, and mechanical servicing.
- Emergency procedures: refrigerant leak, electrical fire, injury.
- Documentation and reporting of safety incidents.
- Summative assessment: practical demonstration and written test.

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 **7 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 20,500.00	R 20,500.00
1	In-House	R 26,600.00	R 26,600.00
1	On-Campus (Pretoria)	R 30,800.00	R 30,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
11 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	20 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	20 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 116241) 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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