



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

Preventive Maintenance for HVAC Systems

Custom Courses / Engineering & Technical Maintenance

Unit Standard AATICD-0257 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips maintenance technicians and facilities managers with the knowledge and skills to perform preventive maintenance on HVAC systems. It covers key procedures, diagnostic techniques, and safety practices to ensure system reliability, energy efficiency, and compliance with South African standards.

Category	Custom Courses
Subfield	Engineering & Technical Maintenance
Unit Standard	AATICD-0257
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply systematic preventive maintenance procedures to HVAC components including compressors, coils, fans, and filters.
- Analyze system performance data to identify potential faults and optimize energy efficiency.
- Evaluate the condition of HVAC systems using diagnostic tools and inspection checklists.
- Implement safety protocols and environmental regulations during maintenance operations.
- Demonstrate proper documentation and reporting of maintenance activities and findings.
- Design a preventive maintenance schedule tailored to specific HVAC equipment and usage patterns.

WHO SHOULD ATTEND

- This course is designed for HVAC technicians, maintenance personnel, and facilities managers responsible for the upkeep of heating, ventilation, and air conditioning systems in commercial and industrial settings.

COURSE OUTLINE

Day 1: Fundamentals of HVAC Systems and Preventive Maintenance

- Overview of HVAC systems: heating, ventilation, air conditioning.
- Key components: compressors, condensers, evaporators, fans, filters, ducts.
- Principles of heat transfer and refrigeration cycle.
- Importance of preventive maintenance: energy efficiency, equipment lifespan, indoor air quality.
- Safety procedures: lockout/tagout, PPE, handling refrigerants.
- Maintenance tools and instruments: multimeters, gauges, thermometers.
- Introduction to maintenance schedules and checklists.
- Common HVAC system types: split systems, packaged units, heat pumps.

Day 2: Inspection and Troubleshooting Techniques

- Visual inspection procedures for outdoor and indoor units.
- Checking electrical connections and components.
- Measuring voltage, current, and resistance.
- Refrigerant pressure and temperature checks.
- Airflow measurement and duct inspection.
- Common faults: refrigerant leaks, compressor issues, fan motor failures.
- Troubleshooting flowcharts and decision-making.
- Documentation of findings and reporting.

Day 3: Preventive Maintenance Procedures for Key Components

- Compressor maintenance: oil checks, vibration analysis, electrical testing.
- Condenser coil cleaning and fin straightening.
- Evaporator coil inspection and cleaning.
- Air handler maintenance: belt tension, pulley alignment, bearing lubrication.
- Filter replacement schedules and types.
- Refrigerant charge verification and adjustment.
- Drain line cleaning and condensate management.
- Lubrication procedures for fans and motors.

Day 4: Electrical and Control Systems Maintenance

- HVAC electrical components: transformers, capacitors, relays, contactors.
- Reading wiring diagrams and schematics.
- Testing and replacing capacitors and contactors.
- Thermostat calibration and programming.
- Sensor types: temperature, pressure, humidity.
- Control system basics: DDC, PLC, and smart controls.
- Electrical safety: grounding, insulation resistance testing.
- Troubleshooting control failures.

Day 5: Advanced Maintenance, Documentation, and Practical Integration

- Advanced diagnostics: vibration analysis, thermography.
- Maintenance planning: scheduling, resource allocation.
- Computerized maintenance management systems (CMMS).
- Regulatory compliance: SAQA standards, environmental regulations.
- Energy efficiency optimization through maintenance.

- Case studies of maintenance failures and solutions.
- Review of key concepts and assessment.
- Practical integration: hands-on maintenance of a complete system.

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 **10 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

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
17 Aug 2026	21 Aug 2026	On-Campus	Harare, Zimbabwe
17 Aug 2026	21 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	28 Aug 2026	On-Campus	Bangkok, Thailand
24 Aug 2026	28 Aug 2026	On-Campus	Victoria Falls, Zimbabwe
31 Aug 2026	04 Sep 2026	On-Campus	Lusaka, Zambia
31 Aug 2026	04 Sep 2026	On-Campus	London, UK

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 AATICD-0257) 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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