



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

HVAC Inspection and Testing

Custom Courses / Engineering & Technical Maintenance

Unit Standard AATICD-0259 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills required to inspect and test HVAC systems in commercial and industrial settings. Emphasis is placed on safety procedures, system performance verification, and compliance with South African standards.

Category	Custom Courses
Subfield	Engineering & Technical Maintenance
Unit Standard	AATICD-0259
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 relevant safety procedures and regulations during HVAC inspection and testing.
- Demonstrate the ability to inspect HVAC components for wear, damage, and operational integrity.
- Evaluate system performance against design specifications and industry standards.
- Analyze test results to identify faults and recommend corrective actions.
- Implement testing procedures for electrical, mechanical, and refrigeration circuits.
- Document inspection findings and testing outcomes in accordance with organisational requirements.

WHO SHOULD ATTEND

- Technicians, maintenance personnel, and supervisors responsible for the inspection, testing, and maintenance of HVAC systems.
- Also suitable for aspiring HVAC professionals seeking formal recognition of their skills.

COURSE OUTLINE

Day 1: Introduction to HVAC Systems and Inspection Fundamentals

- Overview of HVAC systems: heating, ventilation, and air conditioning.
- Key components: compressors, condensers, evaporators, fans, ducts, controls.
- Types of HVAC systems: split, packaged, VRF, heat pumps, chillers.
- Introduction to HVAC inspection standards and codes (SANS 10147, SANS 10400).
- Safety practices: lockout/tagout, PPE, electrical safety.
- Inspection tools and equipment: multimeters, thermometers, pressure gauges.
- Documentation and reporting basics.
- Pre-inspection procedures and site assessment.

Day 2: Inspection Techniques and Electrical Testing

- Visual inspection of ductwork, insulation, and air filters.
- Mechanical inspection of fans, belts, pulleys, and bearings.
- Electrical safety and use of multimeters, clamp meters, and insulation testers.
- Testing motors: winding resistance, insulation resistance, run/start capacitors.
- Checking contactors, relays, and thermostats.
- Reading and interpreting electrical control diagrams.
- Identifying signs of overheating, corrosion, and wear.
- Recording inspection findings and defect classification.

Day 3: Refrigeration and Airflow Testing

- Refrigeration cycle review: evaporation, compression, condensation, expansion.
- Using manifold gauges: high side, low side, saturation temperatures.
- Superheat and subcooling calculation and interpretation.
- Refrigerant types, environmental regulations, and leak detection.
- Airflow measurement techniques: traverse, capture hood, pitot tube.
- Static pressure measurement and duct system analysis.
- Checking evaporator and condenser coil condition.
- Troubleshooting low airflow, restricted lines, and improper charge.

Day 4: System Performance Evaluation and Diagnostics

- Performance metrics: EER, COP, SEER, and IPLV.
- Temperature split and approach temperature analysis.
- Load estimation: manual J or simplified methods.
- Power consumption measurement and kW/ton assessment.
- Using data loggers for temperature and humidity trends.
- Diagnostic procedures for common faults: short cycling, high head pressure.
- Indoor air quality testing: CO2, humidity, particulate.
- Reporting findings and recommending corrective actions.

Day 5: Advanced Testing, Commissioning, and Practical Integration

- Advanced diagnostics: vibration analysis, refrigerant analysis.
- Commissioning procedures: test and balance, functional testing.
- Building management system (BMS) integration and testing.
- Leak detection methods: electronic, ultrasonic, dye.
- Duct leakage testing and sealing verification.

- Review of case studies and common failure modes.
- Simulated inspection exercise: system walk-through, testing, reporting.
- Final assessment and certification requirements.

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-0259) 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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