



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

Gas Testing

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0153 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to safely conduct gas testing in hazardous environments. Participants will learn to identify potential gas hazards, select and use appropriate gas detection equipment, and interpret test results to ensure workplace safety. The training aligns with occupational health and safety regulations in South Africa.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0153
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

- Demonstrate the ability to identify and assess gas hazards in the workplace.
- Apply correct procedures for selecting and calibrating gas detection equipment.
- Conduct gas tests in confined spaces and other hazardous areas.
- Interpret gas test results and take appropriate actions based on readings.
- Implement safety protocols and emergency procedures related to gas testing.

WHO SHOULD ATTEND

- This course is designed for workers and supervisors in industries such as mining, chemical processing, oil and gas, and confined space operations who are responsible for gas testing as part of their safety duties.

COURSE OUTLINE

Day 1: Introduction to Gas Testing and Safety Principles

- Overview of SAQA unit standard AATICD-0153 and course outcomes
- Relevant legislation: OHS Act, SANS 10019, and industry codes
- Classification of gases: flammable, toxic, asphyxiant, and corrosive
- Gas properties: density, lower explosive limit (LEL), upper explosive limit (UEL), and threshold limit value (TLV)
- Principles of gas detection: sensors, alarms, and calibration
- Introduction to confined space entry and gas testing protocols
- Hierarchy of hazard controls: elimination, substitution, engineering, administrative, PPE

Day 2: Gas Detection Equipment and Calibration

- Types of gas detectors: single-gas, multi-gas, fixed, portable, and area monitors
- Sensor technologies: catalytic bead, electrochemical, infrared, photoionization
- Pre-use checks: battery, sensor response, alarm function, and zero calibration
- Bump testing and full calibration: frequency, gases, and documentation
- Interpreting readings: ppm, %LEL, % volume, and oxygen deficiency/enrichment
- Common errors: cross-sensitivity, temperature/humidity effects, and sensor poisoning
- Maintenance: cleaning, sensor replacement, and battery care

Day 3: Gas Testing in Confined Spaces and Hazardous Areas

- Confined space identification and hazards: oxygen deficiency, toxic gases, flammable atmospheres
- Pre-entry gas testing: order of testing (oxygen, flammability, toxicity)
- Continuous monitoring and personal gas detectors
- Hazardous area classification: zones, gas groups, and temperature classes
- Gas testing for hot work permits and inerting procedures
- Documentation: gas test logs, permits, and incident reports
- Emergency response: evacuation, rescue, and first aid for gas exposure

Day 4: Advanced Gas Testing Techniques and Interpretation

- Advanced detection: gas chromatography, Fourier transform infrared (FTIR), and laser-based sensors
- Cross-interference and selectivity: managing false positives/negatives
- Sampling strategies: spot, continuous, and area mapping
- Tracer gas testing for ventilation assessment
- Data logging and analysis: trends, alarms, and reporting
- Case studies: gas incidents and lessons learned
- Risk assessment integration: combining gas testing with other hazard controls

Day 5: Practical Integration, Assessment, and Certification

- Practical assessment: pre-entry testing, continuous monitoring, and documentation
- Simulated confined space entry with gas testing equipment
- Troubleshooting and emergency response scenarios
- Review of key concepts and question-and-answer session
- Written assessment and practical evaluation
- Feedback and certification process
- Resources for further learning: industry bodies, standards updates

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-0153) 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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