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

Hydrogen Infrastructure

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0544 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course provides participants with a comprehensive understanding of hydrogen infrastructure, including production, storage, distribution, and safety protocols. It equips learners with the skills to assess, implement, and manage hydrogen systems in compliance with South African regulations and international best practices.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0544
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Apply the principles of hydrogen production, storage, and distribution to design safe and efficient infrastructure.
- Analyze the risks associated with hydrogen systems and evaluate mitigation strategies in line with SANS and international standards.
- Implement monitoring and maintenance procedures for hydrogen infrastructure to ensure operational integrity.
- Design emergency response plans for hydrogen incidents, incorporating relevant safety regulations.
- Demonstrate compliance with South African legislative requirements for hydrogen energy projects.
- Evaluate the environmental and economic impacts of hydrogen infrastructure projects.

WHO SHOULD ATTEND

- This course is designed for engineers, project managers, safety officers, and technicians involved in the planning, construction, or operation of hydrogen facilities.
- It is also suitable for professionals seeking to transition into the hydrogen energy sector.

COURSE OUTLINE

Day 1: **Fundamentals of Hydrogen as an Energy Carrier**

- Introduction to hydrogen energy: history, current status, and future prospects.
- Hydrogen properties: density, flammability, embrittlement, and cryogenic behaviour.
- Overview of the hydrogen value chain: from well-to-wheel.
- Production methods: grey, blue, and green hydrogen (electrolysis, steam methane reforming).
- Storage and transport basics: compressed gas, liquid, and solid-state storage.
- Applications: industrial, transport, power generation, and heating.
- Policy and regulatory landscape in South Africa: Green Hydrogen Strategy, standards (SANS, ISO).
- Safety fundamentals: hazard identification, risk assessment, and emergency response.

Day 2: **Hydrogen Storage, Distribution, and Refuelling Infrastructure**

- Compressed hydrogen storage: type I-IV cylinders, pressure ratings, and safety.
- Liquid hydrogen storage: cryogenic tanks, boil-off management, and insulation.
- Solid-state storage: metal hydrides and chemical storage.
- Hydrogen pipelines: materials, design, and integrity management.
- Tube trailers and transport logistics.
- Hydrogen refuelling station architecture: compressors, chillers, dispensers, and storage.
- Safety systems: leak detection, ventilation, and emergency shutdown.
- Codes and standards: ASME, ISO 19880, SANS 537, and local regulations.

Day 3: **Integration, Safety, and Operations of Hydrogen Systems**

- System integration: connecting production, storage, and end-use.
- Case studies: hydrogen hubs, industrial clusters, and transport corridors.
- Risk assessment methodologies: HAZOP, HAZID, and quantitative risk assessment.
- Emergency response planning and fire safety.
- Maintenance strategies: inspection, testing, and repair of hydrogen systems.
- Economic analysis: capital and operational costs, levelized cost of hydrogen.
- Environmental impact assessment and life-cycle analysis.
- Stakeholder engagement and community safety.

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 **6 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 13,900.00	**R 13,900.00**
1	In-House	R 18,700.00	**R 18,700.00**
1	On-Campus (Pretoria)	R 20,800.00	**R 20,800.00**

UPCOMING SESSIONS

Start	End	Method	Venue
01 Dec 2026	03 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
01 Dec 2026	03 Dec 2026	On-Campus	Dubai, UAE
02 Dec 2026	04 Dec 2026	On-Campus	Shenzhen, China
02 Dec 2026	04 Dec 2026	On-Campus	Cape Town, South Africa
08 Dec 2026	10 Dec 2026	On-Campus	Maseru, Lesotho
08 Dec 2026	10 Dec 2026	On-Campus	Kigali, Rwanda
08 Dec 2026	10 Dec 2026	On-Campus	Accra, Ghana
08 Dec 2026	10 Dec 2026	On-Campus	Cape Town, South Africa

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

HOW TO GET A QUOTATION OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard AATICD-0544) and click **Get A Quotation**. 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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