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 Storage and Transportation

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0542 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills required for the safe and efficient storage and transportation of hydrogen. It covers the properties of hydrogen, storage technologies, transportation methods, safety protocols, and regulatory compliance, enabling participants to contribute to the growing hydrogen economy in South Africa.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0542
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 principles of hydrogen properties and behavior to design safe storage and transport systems.
- Analyze various hydrogen storage technologies (compressed, liquid, metal hydrides, chemical carriers) to select appropriate solutions for specific applications.
- Evaluate transportation methods (tube trailers, cryogenic tankers, pipelines) considering efficiency, cost, and safety.
- Implement safety protocols and emergency response procedures in accordance with South African and international standards.
- Demonstrate compliance with relevant regulations and standards (e.g., SANS, ISO, ASME) in hydrogen handling operations.

WHO SHOULD ATTEND

- This course is designed for engineers, technicians, logistics professionals, safety officers, and project managers involved in the hydrogen value chain, as well as those transitioning into the renewable energy sector.

COURSE OUTLINE

Day 1: **Fundamentals of Hydrogen Storage and Transportation**

- Introduction to hydrogen as an energy carrier
- Hydrogen properties: density, compressibility, flammability
- Overview of storage methods: compressed gas, liquid hydrogen, metal hydrides, chemical storage
- Compression and liquefaction processes
- Storage system components: tanks, valves, pressure relief devices
- Safety and regulatory framework (SANS, ISO, local regulations
- Environmental and economic considerations
- Case studies of hydrogen storage applications

Day 2: **Advanced Storage Technologies and Transportation Infrastructure**

- Advanced materials for hydrogen storage: metal hydrides, carbon-based materials, metal-organic frameworks
- Cryogenic storage and liquid hydrogen handling
- Hydrogen pipelines: design, materials, and integrity
- Tube trailers and cylinder transport
- Hydrogen refuelling stations: components and operation
- Safety in transport: leak detection, emergency response
- Regulatory compliance for transport (ADR, SANS
- Lifecycle analysis and cost considerations

Day 3: **Integration, Maintenance, and Future Trends**

- Integration with fuel cells, industrial processes, and power generation
- Maintenance and inspection of tanks, valves, and fittings
- Standards and certification for equipment and operations
- Risk assessment and emergency planning
- Emerging technologies: solid-state storage, hydrogen carriers
- Digitalization and monitoring in hydrogen logistics
- Future outlook: green hydrogen economy and infrastructure development
- Workshop: designing a hydrogen supply chain

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	Durban, South Africa
01 Dec 2026	03 Dec 2026	On-Campus	Lagos, Nigeria
02 Dec 2026	04 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
02 Dec 2026	04 Dec 2026	On-Campus	Dubai, UAE
09 Dec 2026	11 Dec 2026	On-Campus	Maseru, Lesotho
09 Dec 2026	11 Dec 2026	On-Campus	Kigali, Rwanda
09 Dec 2026	11 Dec 2026	On-Campus	Accra, Ghana
09 Dec 2026	11 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-0542) 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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