Accredited Africa Training Institute for Capacity Development
Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa
Tel: +27 12 004 8389 · Mobile: +27 65 077 6310
Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Energy Storage Technologies

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0494 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips participants with the knowledge and skills to evaluate, select, and implement energy storage technologies in various applications. It covers the principles of energy storage, system design, safety considerations, and economic analysis, enabling learners to contribute effectively to sustainable energy solutions.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0494
Accreditation	SAQA Accredited · NQF Level 5 · 4 Credits
Duration	2 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Apply the fundamental principles of energy storage technologies to real-world scenarios.
- Analyze the performance characteristics of different energy storage systems to determine their suitability for specific applications.
- Evaluate the economic and environmental impacts of energy storage solutions.
- Design a basic energy storage system for a given application, considering technical, safety, and regulatory requirements.
- Implement energy storage solutions in accordance with industry best practices and standards.
- Demonstrate the ability to troubleshoot common issues in energy storage systems.

WHO SHOULD ATTEND

- This course is designed for engineers, project managers, energy consultants, and technical professionals involved in the planning, deployment, or management of energy storage systems.

COURSE OUTLINE

Day 1: **Fundamentals of Energy Storage**

- Introduction to energy storage: needs and applications
- Overview of storage technologies: electrochemical, mechanical, thermal, and chemical
- Key parameters: energy density, power density, efficiency, lifetime, and cost
- Battery technologies: lead-acid, lithium-ion, flow batteries, and emerging chemistries
- Mechanical storage: pumped hydro, compressed air, and flywheels
- Thermal and chemical storage: sensible, latent, and hydrogen
- Selection criteria and application matching
- Safety, environmental impact, and regulatory framework

Day 2: **Integration, Applications, and Future Trends**

- Storage in renewable integration: smoothing, shifting, and firming
- Grid services: frequency regulation, voltage support, and peak shaving
- Behind-the-meter applications: commercial, industrial, and residential
- Storage system components: inverters, BMS, and control systems
- Sizing and optimisation of storage systems
- Economic analysis: lifecycle cost, revenue streams, and payback
- Case studies: South African and global examples
- Future trends: solid-state batteries, second-life batteries, and hybrid storage

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 **4 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 11,900.00	**R 11,900.00**
1	In-House	R 16,100.00	**R 16,100.00**
1	On-Campus (Pretoria)	R 17,800.00	**R 17,800.00**

UPCOMING SESSIONS

Start	End	Method	Venue
02 Dec 2026	03 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
02 Dec 2026	03 Dec 2026	On-Campus	Cape Town, South Africa
03 Dec 2026	04 Dec 2026	On-Campus	Shenzhen, China
03 Dec 2026	04 Dec 2026	On-Campus	Lagos, Nigeria
09 Dec 2026	10 Dec 2026	On-Campus	Maseru, Lesotho
09 Dec 2026	10 Dec 2026	On-Campus	Kigali, Rwanda
09 Dec 2026	10 Dec 2026	On-Campus	Accra, Ghana
09 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-0494) 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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