



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

Battery Energy Storage Systems

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0493 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips participants with the knowledge and skills to design, implement, and manage battery energy storage systems (BESS) in various applications. It covers the principles of battery technology, system integration, safety protocols, and performance monitoring, enabling professionals to contribute effectively to the growing renewable energy sector in South Africa.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0493
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 battery chemistry and energy storage technologies to select appropriate battery types for specific applications.
- Analyze the performance characteristics and degradation mechanisms of various battery technologies to optimize system design and operation.
- Design battery energy storage system configurations, including sizing, string design, and thermal management, to meet specified requirements.
- Implement safety protocols and regulatory compliance measures for the installation and operation of battery energy storage systems.
- Evaluate the economic and environmental impact of battery energy storage systems using lifecycle analysis and cost-benefit assessment.
- Demonstrate the ability to monitor, diagnose, and troubleshoot battery system performance using appropriate tools and techniques.

WHO SHOULD ATTEND

- This course is designed for engineers, technicians, project managers, and energy professionals who are involved in the planning, installation, or maintenance of battery energy storage systems.
- It is also suitable for individuals seeking to upskill in the renewable energy field.

COURSE OUTLINE

Day 1: Fundamentals of Battery Energy Storage Systems

- Introduction to BESS and applications
- Components: battery cells, modules, racks, BMS, PCS, thermal management
- Battery technologies: lithium-ion, lead-acid, flow batteries
- Key performance parameters: capacity, C-rate, state of charge, depth of discharge
- Safety standards and regulations (SANS, IEC)
- Environmental considerations and recycling

Day 2: Design, Operation, and Maintenance of BESS

- System design: load profile, autonomy, and sizing calculations
- Integration with renewable energy sources and grid
- Control strategies: peak shaving, load shifting, frequency regulation
- Monitoring and communication protocols
- Maintenance procedures: inspections, testing, and replacement
- Troubleshooting common faults and safety protocols

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 15,400.00	R 15,400.00
1	On-Campus (Pretoria)	R 17,800.00	R 17,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
30 Sep 2026	01 Oct 2026	In-House	—
30 Sep 2026	01 Oct 2026	On-Campus	Shenzhen, China
01 Oct 2026	02 Oct 2026	On-Campus	Blantyre, Malawi
05 Oct 2026	06 Oct 2026	On-Campus	Windhoek, Namibia
06 Oct 2026	07 Oct 2026	On-Campus	Kigali, Rwanda
06 Oct 2026	07 Oct 2026	Online	—
07 Oct 2026	08 Oct 2026	On-Campus	Lusaka, Zambia
07 Oct 2026	08 Oct 2026	On-Campus	Mbabane, Eswatini

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-0493) 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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