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

Smart Energy Systems

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0499 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills to design, implement, and manage smart energy systems in residential, commercial, and industrial settings. It covers renewable energy integration, smart grid technologies, and energy efficiency strategies, enabling participants to contribute to sustainable energy solutions in South Africa and beyond.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0499
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 principles of smart energy systems, including renewable energy sources, storage, and smart grid technologies.
- Analyze energy consumption patterns and design energy efficiency strategies for various applications.
- Evaluate the economic and environmental impact of smart energy solutions using cost-benefit analysis and lifecycle assessment.
- Design a basic smart energy system for a given scenario, integrating components such as solar PV, battery storage, and smart meters.
- Implement smart energy monitoring and control systems, using IoT devices and data analytics to optimize performance.
- Demonstrate compliance with relevant South African energy regulations and standards.

WHO SHOULD ATTEND

- This course is ideal for energy professionals, electrical engineers, facility managers, and technicians seeking to advance their careers in the growing field of smart energy.
- It is also suitable for entrepreneurs and sustainability consultants who wish to offer smart energy solutions to clients.

COURSE OUTLINE

Day 1: **Fundamentals of Smart Energy Systems**

- Introduction to smart energy systems
- Overview of energy generation, transmission, and distribution
- Renewable energy sources: solar, wind, hydro, biomass
- Smart grid architecture and functionalities
- Demand-side management and load shifting
- IoT and sensor technologies in energy monitoring
- Energy storage systems and their applications
- South African energy landscape and policies

Day 2: **Advanced Applications and Integration**

- Advanced metering infrastructure (AMI) and smart meters
- Data analytics for energy management and forecasting
- Energy efficiency measures in buildings and industry
- Cybersecurity challenges and solutions in smart grids
- Integration of renewable energy sources into the grid
- Microgrids and distributed energy resources
- Electric vehicles and vehicle-to-grid (V2G) integration
- Case studies and best practices in smart energy deployment

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	Dubai, UAE
03 Dec 2026	04 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
03 Dec 2026	04 Dec 2026	On-Campus	Cape Town, South Africa
10 Dec 2026	11 Dec 2026	On-Campus	Maseru, Lesotho
10 Dec 2026	11 Dec 2026	On-Campus	Kigali, Rwanda
10 Dec 2026	11 Dec 2026	On-Campus	Accra, Ghana
10 Dec 2026	11 Dec 2026	On-Campus	Cape Town, South Africa
10 Dec 2026	11 Dec 2026	On-Campus	Abu Dhabi, UAE

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-0499) 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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