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

Solar PV Operations and Maintenance

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0480 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips participants with the knowledge and skills to operate, maintain, and troubleshoot solar photovoltaic (PV) systems effectively. It covers the principles of PV technology, system components, safety procedures, and best practices for ensuring optimal performance and longevity of installations.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0480
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 principles of solar PV system design and operation to real-world scenarios.
- Analyze the performance of PV modules, inverters, and other system components.
- Evaluate the safety risks associated with PV systems and implement appropriate safety measures.
- Design a preventive maintenance schedule for a solar PV system.
- Implement troubleshooting procedures to diagnose and rectify common faults.
- Demonstrate the ability to perform routine maintenance tasks in accordance with manufacturer specifications and industry standards.

WHO SHOULD ATTEND

- This course is designed for technicians, electricians, facility managers, and aspiring solar professionals who are involved in the installation, operation, or maintenance of solar PV systems.

COURSE OUTLINE

Day 1: **Fundamentals of Solar PV Systems and Safety**

- Introduction to solar PV technology and system types (grid-tied, off-grid, hybrid
- Components: modules, inverters, mounting structures, cabling, protection devices
- Electrical fundamentals: DC/AC, voltage, current, power, and energy
- Safety standards and regulations (OHS Act, SANS 10142-1
- Tools and instruments for PV testing (multimeter, I-V curve tracer, thermal camera
- System documentation: as-built drawings, warranties, and maintenance schedules
- Common failure modes and degradation mechanisms
- Basic troubleshooting methodology

Day 2: **Advanced O&M; Procedures and Performance Optimization**

- Routine maintenance: visual inspection, cleaning, torque checks, thermal scanning
- Electrical testing: insulation resistance, continuity, I-V curve analysis
- Inverter diagnostics and fault code interpretation
- Performance monitoring and data analysis (yield, PR, performance ratio
- Corrective maintenance: replacing components, repairing wiring, module replacement
- Safety procedures for working at height and electrical isolation
- Documentation and reporting: maintenance logs, defect reports, and handover
- Emerging trends: smart monitoring, predictive maintenance, and automation

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
01 Dec 2026	02 Dec 2026	On-Campus	Shenzhen, China
01 Dec 2026	02 Dec 2026	On-Campus	Lagos, Nigeria
02 Dec 2026	03 Dec 2026	On-Campus	Durban, South Africa
03 Dec 2026	04 Dec 2026	On-Campus	Dubai, UAE
07 Dec 2026	08 Dec 2026	On-Campus	Maseru, Lesotho
07 Dec 2026	08 Dec 2026	On-Campus	Kigali, Rwanda
07 Dec 2026	08 Dec 2026	On-Campus	Accra, Ghana
07 Dec 2026	08 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-0480) 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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