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 Energy Systems

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0477 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course provides comprehensive training in the design, installation, and maintenance of solar energy systems, with a focus on both photovoltaic (PV) and solar thermal technologies. Participants will gain practical skills to assess energy needs, design efficient systems, and ensure safety and compliance with South African standards.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0477
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 solar energy conversion to select appropriate system components.
- Design a photovoltaic system layout based on site assessment and energy requirements.
- Analyze system performance using industry-standard tools and calculations.
- Evaluate safety and regulatory compliance in solar installations.
- Implement maintenance procedures to ensure system longevity and efficiency.
- Demonstrate the ability to troubleshoot and repair common solar system faults.

WHO SHOULD ATTEND

- This course is ideal for electricians, renewable energy technicians, engineers, and individuals seeking to enter the solar energy industry, as well as professionals looking to upskill in sustainable energy solutions.

COURSE OUTLINE

Day 1: **Fundamentals of Solar Energy and System Components**

- Introduction to solar energy: solar radiation, irradiance, and insolation
- Photovoltaic (PV) technology: cells, modules, and arrays
- System components: solar panels, inverters, batteries, charge controllers, and mounting structures
- System types: grid-tied, off-grid, and hybrid configurations
- Basic electrical principles: voltage, current, power, and energy
- Introduction to solar system design considerations
- Safety standards and regulations (SANS, Occupational Health and Safety Act
- Overview of the South African solar energy landscape

Day 2: **System Design, Installation, and Maintenance**

- Site assessment: solar resource, shading analysis, and structural considerations
- System sizing: load analysis, battery sizing, and inverter selection
- Design software and tools for system layout
- Installation procedures: mounting, wiring, and connection to grid or battery
- Commissioning and testing of solar systems
- Maintenance practices: cleaning, inspection, and performance monitoring
- Troubleshooting common faults: underperformance, inverter errors, and battery issues
- Documentation, warranties, and compliance

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	Victoria Falls, Zimbabwe
01 Dec 2026	02 Dec 2026	On-Campus	Cape Town, South Africa
02 Dec 2026	03 Dec 2026	On-Campus	Shenzhen, China
02 Dec 2026	03 Dec 2026	On-Campus	Lagos, Nigeria
03 Dec 2026	04 Dec 2026	On-Campus	Durban, South Africa
08 Dec 2026	09 Dec 2026	On-Campus	Maseru, Lesotho
08 Dec 2026	09 Dec 2026	On-Campus	Kigali, Rwanda
08 Dec 2026	09 Dec 2026	On-Campus	Accra, Ghana

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-0477) 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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