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 Photovoltaic Systems

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0478 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills to design, install, and maintain solar photovoltaic (PV) systems. It covers system components, site assessment, safety protocols, and performance evaluation, enabling participants to contribute effectively to South Africa's renewable energy sector.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0478
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 energy and photovoltaic technology to select appropriate system components.
- Analyze site conditions and energy requirements to design a solar PV system that meets client needs.
- Evaluate the performance of solar PV systems using monitoring tools and troubleshooting techniques.
- Implement safety procedures and regulatory compliance measures during installation and maintenance.
- Demonstrate the ability to perform system commissioning and handover procedures.
- Design a basic grid-tied or off-grid solar PV system, including sizing and layout.

WHO SHOULD ATTEND

- This course is designed for electricians, technicians, engineers, and aspiring renewable energy professionals who wish to specialise in solar PV systems.
- It is also suitable for project managers and entrepreneurs seeking to enter the solar energy market.

COURSE OUTLINE

Day 1: **Fundamentals of Solar Photovoltaic Systems**

- Solar radiation and PV cell operation.
- PV module types, characteristics, and ratings.
- System components: modules, inverters, batteries, charge controllers, mounting structures.
- System configurations: grid-tied, off-grid, hybrid.
- Basic electrical principles for PV (Ohm's law, series/parallel connections).
- Introduction to SANS 10142-1 and other applicable standards.
- Site assessment basics and solar resource evaluation.

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

- Load assessment and energy consumption analysis.
- Sizing PV array, inverter, and battery bank for off-grid and grid-tied systems.
- Mounting structures and mechanical installation.
- Electrical wiring, protection devices, and earthing.
- Commissioning tests and performance verification.
- Troubleshooting common faults and performance issues.
- Maintenance requirements and safety procedures.
- Documentation, warranties, and regulatory 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	Dubai, UAE
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

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-0478) 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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