Accredited Africa Training Institute for Capacity Development
Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa
Tel: +27 12 004 8389 · Mobile: +27 65 077 6310
Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Wind Energy Systems

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0482 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to understand, install, and maintain wind energy systems. It covers the principles of wind energy conversion, system components, safety protocols, and performance monitoring, enabling learners to contribute effectively to renewable energy projects in South Africa.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0482
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 wind energy conversion to assess site suitability and system performance.
- Analyse the components and operation of wind turbines, including mechanical, electrical, and control systems.
- Evaluate wind resource data and perform basic energy yield calculations for proposed wind projects.
- Design a basic wind energy system layout, considering environmental, safety, and grid integration factors.
- Implement maintenance and troubleshooting procedures for wind turbine components, adhering to safety standards.
- Demonstrate compliance with South African regulations and industry best practices in wind energy installations.

WHO SHOULD ATTEND

- This course is designed for technicians, engineers, and energy professionals seeking to specialise in wind energy technology, as well as for individuals entering the renewable energy sector.

COURSE OUTLINE

Day 1: **Fundamentals of Wind Energy and Site Assessment**

- Introduction to wind energy: global and local trends, benefits and challenges.
- Principles of wind power: Betz limit, power coefficient, and capacity factor.
- Wind turbine components: rotor, nacelle, tower, and foundation.
- Wind resource assessment: anemometry, wind maps, and site surveys.
- Wind data analysis: Weibull distribution, wind rose, and energy production estimates.
- Site selection criteria: terrain, environmental constraints, grid proximity, and land use.
- Environmental and social impact assessment: noise, visual, wildlife, and community engagement.
- Overview of South African wind energy projects and regulatory framework.

Day 2: **Wind Farm Design, Operation, and Maintenance**

- Wind farm design: turbine spacing, wake effects, and micro-siting.
- Electrical systems: collection networks, transformers, and grid connection.
- Wind turbine operation: yaw and pitch control, SCADA, and performance monitoring.
- Maintenance strategies: preventive, predictive, and corrective maintenance.
- Safety procedures: working at heights, lockout/tagout, and emergency response.
- Economic analysis: capital costs, O&M; costs, and levelized cost of energy.
- Grid integration: power quality, ramping, and energy storage options.
- Future trends: offshore wind, hybrid systems, and digitalization.

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-0482) 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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