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

Energy Transmission and Distribution

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0514 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips learners with comprehensive knowledge and practical skills in the transmission and distribution of electrical energy. It covers the fundamental principles, components, and operational aspects of power systems, enabling participants to understand and manage energy networks effectively. The course also addresses safety, regulatory compliance, and emerging trends in the energy sector.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0514
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 electrical energy transmission and distribution to real-world scenarios.
- Analyze the components and configurations of transmission and distribution networks to ensure efficient operation.
- Evaluate the performance of power systems using appropriate technical and safety standards.
- Design basic transmission and distribution layouts considering technical, economic, and regulatory factors.
- Implement maintenance and operational procedures to enhance reliability and safety of energy networks.
- Demonstrate knowledge of safety regulations and environmental considerations in energy transmission and distribution.

WHO SHOULD ATTEND

- This course is designed for electrical engineers, technicians, project managers, and professionals working in the energy sector who seek to deepen their understanding of transmission and distribution systems.
- It is also suitable for individuals transitioning into the energy industry or those responsible for managing energy infrastructure.

COURSE OUTLINE

Day 1: **Fundamentals of Energy Transmission and Distribution**

- Overview of the electricity supply chain: generation, transmission, distribution, and load.
- Transmission line design: conductors, insulators, towers, and overhead vs underground lines.
- Substation layout and equipment: transformers, busbars, circuit breakers, and isolators.
- Introduction to voltage levels, power losses, and efficiency.
- Protection systems: fuses, relays, and circuit breakers.
- South African grid context: Eskom, municipalities, and the Energy Regulator (NERSA).
- Health and safety regulations: OHS Act, electrical safety practices.

Day 2: **Advanced Operations, Maintenance, and Smart Grid Integration**

- Load flow analysis and voltage control methods (tap changers, capacitors).
- Fault calculations and protection coordination.
- Maintenance planning: predictive, preventive, and corrective approaches.
- Smart grid components: sensors, SCADA, and advanced metering infrastructure.
- Integration of renewable energy sources and distributed generation.
- Energy efficiency and demand-side management.
- Case studies of grid failures and reliability improvement.

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-0514) 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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