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
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COURSE BROCHURE

Power Plant Operations

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0501 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the comprehensive knowledge and practical skills required to manage and operate power generation plants safely and efficiently. It covers key aspects of power plant systems, operational procedures, maintenance strategies, and regulatory compliance, enabling participants to contribute to reliable and sustainable power supply.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0501
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Apply fundamental principles of power generation to optimize plant performance.
- Analyze operational data to identify inefficiencies and implement corrective actions.
- Evaluate safety and environmental risks in power plant operations and propose mitigation strategies.
- Design routine operational procedures for start-up, shutdown, and normal operations.
- Implement maintenance strategies to enhance equipment reliability and lifespan.
- Demonstrate compliance with relevant legislation, standards, and codes of practice.

WHO SHOULD ATTEND

- This course is designed for operators, technicians, and supervisors working in or aspiring to work in power generation facilities, including coal, gas, nuclear, and renewable energy plants.

COURSE OUTLINE

Day 1: **Fundamentals of Power Plant Operations**

- Introduction to power generation: types of power plants (thermal, hydro, nuclear, renewable
- Overview of the electricity grid and power plant integration
- Thermodynamic cycles: Rankine cycle, Brayton cycle, combined cycle
- Main components: boiler, turbine, generator, condenser, cooling systems
- Basic principles of combustion and steam generation
- Introduction to control systems and instrumentation
- Safety standards: OHS Act, plant-specific safety rules
- Environmental regulations and emissions control basics

Day 2: **Systems and Operational Procedures**

- Fuel handling and combustion control
- Air and flue gas systems: fans, dampers, and emissions control
- Water/steam cycle: feedwater, boiler, and condensate systems
- Cooling systems: cooling towers and heat exchangers
- Start-up and shut-down procedures: boiler, turbine, generator
- Monitoring and control: DCS, SCADA, and instrumentation
- Routine inspections and maintenance practices
- Troubleshooting common operational problems
- Shift handover and operational documentation

Day 3: **Advanced Operations and Emergency Response**

- Performance analysis: heat rate, efficiency, and load curves
- Optimization techniques: combustion tuning, sootblowing, and feedwater heating
- Grid integration and load following
- Emergency procedures: turbine trips, boiler failures, and power outages
- Root cause analysis and incident investigation
- Environmental compliance and emissions monitoring
- Plant shutdown and preservation procedures
- Team coordination and leadership in operations

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 **6 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 13,900.00	**R 13,900.00**
1	In-House	R 18,700.00	**R 18,700.00**
1	On-Campus (Pretoria)	R 20,800.00	**R 20,800.00**

UPCOMING SESSIONS

Start	End	Method	Venue
01 Dec 2026	03 Dec 2026	On-Campus	Shenzhen, China
01 Dec 2026	03 Dec 2026	On-Campus	Cape Town, South Africa
02 Dec 2026	04 Dec 2026	On-Campus	Durban, South Africa
02 Dec 2026	04 Dec 2026	On-Campus	Lagos, Nigeria
07 Dec 2026	09 Dec 2026	On-Campus	Maseru, Lesotho
07 Dec 2026	09 Dec 2026	On-Campus	Kigali, Rwanda
07 Dec 2026	09 Dec 2026	On-Campus	Accra, Ghana
07 Dec 2026	09 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-0501) 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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