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

SCADA Systems for Oil & Gas

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0439 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips participants with the knowledge and practical skills to design, configure, and manage SCADA systems specifically for oil and gas operations. It covers the integration of field devices, data acquisition, real-time monitoring, and control strategies essential for efficient and safe production processes.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0439
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 SCADA system architecture principles to design a functional monitoring and control solution for oil and gas processes.
- Analyze data from field devices and sensors to identify operational trends and anomalies in oil and gas production.
- Evaluate the effectiveness of control strategies and alarm management in maintaining safe and efficient operations.
- Implement cybersecurity measures to protect SCADA systems from internal and external threats.
- Demonstrate the ability to troubleshoot common SCADA hardware and software issues in an oil and gas context.
- Design human-machine interface (HMI) screens that provide clear and actionable information to operators.

WHO SHOULD ATTEND

- This course is designed for control room operators, process engineers, instrumentation technicians, and IT professionals who work with or are transitioning to SCADA systems in the oil and gas industry.

COURSE OUTLINE

Day 1: **Fundamentals of SCADA and Oil & Gas Operations**

- Introduction to SCADA: definition, history, and evolution.
- SCADA architecture: field devices, communication networks, and central control.
- Oil and gas industry overview: upstream, midstream, downstream processes.
- Key SCADA components: RTUs, PLCs, sensors, actuators, and HMIs.
- Communication protocols: Modbus, DNP3, OPC, and Ethernet/IP.
- Data acquisition and telemetry: analog and digital signals, scaling.
- Basic control concepts: open-loop vs closed-loop, PID basics.
- Cybersecurity fundamentals: threats, best practices, and standards (IEC 62443).

Day 2: **SCADA Implementation, Operations, and Practical Integration**

- SCADA system design: system architecture, redundancy, and scalability.
- HMI development: creating displays, trends, and alarms.
- Alarm management: rationalization, prioritization, and response procedures.
- Data logging and reporting: historical data storage and analysis.
- Communication troubleshooting: signal integrity, noise, and diagnostics.
- Safety systems integration: emergency shutdowns and interlocks.
- Cybersecurity implementation: firewalls, VPNs, and access control.
- Case studies: SCADA applications in pipeline monitoring and wellhead control.

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	Durban, South Africa
02 Dec 2026	03 Dec 2026	On-Campus	Dubai, UAE
03 Dec 2026	04 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
03 Dec 2026	04 Dec 2026	On-Campus	Cape Town, South Africa
10 Dec 2026	11 Dec 2026	On-Campus	Maseru, Lesotho
10 Dec 2026	11 Dec 2026	On-Campus	Kigali, Rwanda
10 Dec 2026	11 Dec 2026	On-Campus	Accra, Ghana
10 Dec 2026	11 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-0439) 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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