



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

Water Intake Control And Management Systems Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 115884 · NQF Level 4 · 8 Credits · 5 Days

COURSE OVERVIEW

This course equips participants with the knowledge and skills to design, implement, and manage water intake control and management systems in compliance with South African water regulations. It focuses on optimizing water abstraction, monitoring water quality, and ensuring sustainable water use within industrial and municipal contexts. Participants will gain practical competence in system operation, troubleshooting, and reporting.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	115884
Accreditation	SAQA Accredited · NQF Level 4 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply the principles of water intake control and management to ensure efficient and compliant system operation.
- Analyze water quality data to identify trends and potential risks to system integrity.
- Evaluate the performance of water intake systems against regulatory and operational standards.
- Design basic water intake monitoring and control procedures for a given context.
- Implement corrective actions in response to system failures or deviations from set parameters.
- Demonstrate the ability to maintain accurate records and report on system status.

WHO SHOULD ATTEND

- This course is designed for water treatment plant operators, process controllers, environmental health practitioners, and engineering technicians responsible for water intake systems in municipal, industrial, or agricultural settings.

COURSE OUTLINE

Day 1: Introduction to Water Intake Systems

- Overview of water intake systems: sources, types, and applications.
- Key components: screens, pumps, valves, and pipelines.
- Basic hydrology and water flow principles.
- Water quality parameters: turbidity, pH, temperature, and contaminants.
- Regulatory requirements: SA water laws, environmental impact assessments.
- Case studies of water intake systems in South Africa.

Day 2: Water Intake Control Mechanisms

- Control strategies: feedback, feedforward, and cascade control.
- Sensors and instrumentation: flow meters, level sensors, pressure transducers.
- Pump control: variable speed drives, start/stop logic.
- Valve operation: gate, butterfly, and control valves.
- Introduction to SCADA systems for remote monitoring.
- Practical exercises on control loop tuning.

Day 3: Water Quality Management and Treatment Integration

- Water quality standards: SANS 241 and WHO guidelines.
- Monitoring techniques: online analyzers, laboratory testing.
- Pre-treatment: screening, sedimentation, and coagulation.
- Chemical dosing: chlorine, polymers, and pH adjustment.
- Disinfection methods: chlorination, UV, and ozonation.
- Case studies on algae blooms and turbidity events.

Day 4: Advanced Operations and Optimization

- Energy optimization: pump scheduling, variable speed drives.
- Predictive maintenance: vibration analysis, thermal imaging.
- Leak detection: acoustic sensors, flow monitoring.
- Emergency response: contingency plans, backup systems.
- Data analytics: trend analysis, KPIs, and reporting.
- Simulation exercises for system optimization.

Day 5: Integration, Compliance, and Future Trends

- System integration: linking intake, treatment, and distribution.
- Regulatory compliance: audits, permits, and reporting.
- Emerging technologies: IoT, AI, and smart water systems.
- Climate change impacts on water availability.
- Final project: design a water intake management plan.
- Course review and assessment.

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 **8 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 23,000.00	R 23,000.00
1	In-House	R 29,900.00	R 29,900.00
1	On-Campus (Pretoria)	R 34,500.00	R 34,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Pretoria, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 115884) and click **Get A Quote / Apply**. 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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