



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 Treatment Operations

Custom Courses / Water & Environmental Management

Unit Standard AATICD-0206 · NQF Level 5 · 10 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the fundamental knowledge and practical skills required to operate water treatment plants effectively and safely. Participants will gain an understanding of water quality standards, treatment processes, and regulatory compliance, enabling them to contribute to the provision of clean, safe water.

Category	Custom Courses
Subfield	Water & Environmental Management
Unit Standard	AATICD-0206
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply principles of water treatment processes including coagulation, flocculation, sedimentation, filtration, and disinfection.
- Demonstrate correct procedures for monitoring and adjusting chemical dosing, pH levels, and chlorine residuals.
- Analyze water quality test results to determine compliance with SANS 241 and other relevant standards.
- Evaluate common operational problems and implement corrective actions to maintain plant efficiency.
- Implement safety protocols and emergency procedures specific to water treatment environments.

WHO SHOULD ATTEND

- This course is ideal for new and existing water treatment plant operators, process controllers, and technicians seeking to formalize their skills or refresh their knowledge.
- It also benefits maintenance personnel and supervisors involved in water treatment operations.

COURSE OUTLINE

Day 1: Introduction to Water Treatment and Water Quality

- Overview of water treatment and its importance
- Water sources and characteristics
- Key water quality parameters (turbidity, pH, chlorine residual, etc.)
- Introduction to the water treatment process flow
- Overview of SANS 241 drinking water quality standards
- Roles and responsibilities of a water treatment operator
- Health, safety, and environmental considerations

Day 2: Coagulation, Flocculation, and Sedimentation

- Principles of coagulation and flocculation
- Common coagulants (alum, ferric chloride, polymers)
- Jar testing procedure and interpretation
- Sedimentation theory and tank design
- Factors affecting sedimentation efficiency
- Sludge handling and disposal
- Operational monitoring and troubleshooting

Day 3: Filtration and Disinfection

- Types of filters (rapid gravity, slow sand, pressure filters)
- Filter media and backwashing procedures
- Filtration performance monitoring
- Disinfection methods (chlorine, UV, ozone)
- Chlorine chemistry and dosing calculations
- CT concept and disinfection validation
- By-product formation and minimization

Day 4: Advanced Treatment Processes and Plant Operations

- Membrane filtration principles (MF, UF, NF, RO)
- Membrane operation and cleaning
- Activated carbon adsorption
- Ion exchange for softening and nitrate removal
- Chemical handling and safety
- Process control parameters and instrumentation
- Data recording, reporting, and compliance

Day 5: Troubleshooting, Maintenance, and Practical Integration

- Common operational problems (high turbidity, low chlorine residual, filter breakthrough)
- Troubleshooting methodologies
- Preventive maintenance schedules
- Emergency response procedures
- Practical assessment: plant walk-through and problem-solving
- Course review and final 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 **10 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 24,200.00	R 24,200.00
1	In-House	R 31,400.00	R 31,400.00
1	On-Campus (Pretoria)	R 36,200.00	R 36,200.00

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
17 Aug 2026	21 Aug 2026	On-Campus	Harare, Zimbabwe
17 Aug 2026	21 Aug 2026	On-Campus	Shenzhen, China
24 Aug 2026	28 Aug 2026	On-Campus	Bangkok, Thailand
24 Aug 2026	28 Aug 2026	On-Campus	Victoria Falls, Zimbabwe
31 Aug 2026	04 Sep 2026	On-Campus	Lusaka, Zambia
31 Aug 2026	04 Sep 2026	On-Campus	London, UK

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 AATICD-0206) 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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