



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

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Cooling System Water Quality Control And Management Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 110412 · NQF Level 2 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to effectively control and manage water quality in cooling systems, ensuring operational efficiency, equipment longevity, and compliance with health and safety regulations. Participants will understand water treatment principles, monitoring techniques, and corrective actions to prevent scaling, corrosion, and biological fouling.

Category	Manufacturing, Engineering and Technology
Subfield	Fabrication and Extraction
Unit Standard	110412
Accreditation	SAQA Accredited · NQF Level 2 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply principles of water chemistry to assess cooling system water quality parameters such as pH, conductivity, hardness, and alkalinity.
- Analyze water test results to identify potential issues like scaling, corrosion, or microbial growth in cooling systems.
- Evaluate the effectiveness of chemical treatment programs and adjust dosing rates as needed.
- Implement monitoring and control procedures to maintain water quality within specified limits.
- Demonstrate corrective actions for common water quality problems, including blowdown control and chemical adjustments.

WHO SHOULD ATTEND

- This training is designed for maintenance technicians, plant operators, facilities managers, and water treatment specialists responsible for the operation and maintenance of cooling water systems in industrial, commercial, or institutional settings.

COURSE OUTLINE

Day 1: Fundamentals of Cooling Water Chemistry and Quality

- Introduction to cooling water systems and their water quality requirements
- Key water chemistry parameters: pH, conductivity, alkalinity, hardness, TDS
- Scaling mechanisms and control strategies
- Corrosion fundamentals and types in cooling systems
- Fouling and biological growth: causes and prevention
- Overview of chemical treatment programs: inhibitors, biocides, dispersants
- Basics of water sampling and testing procedures
- Environmental and regulatory considerations

Day 2: Advanced Water Treatment Technologies and Chemical Management

- Mechanical treatment methods: filtration, softening, reverse osmosis
- Chemical dosing systems: types, installation, and calibration
- Developing treatment programs for specific system types (open recirculating, closed loop)
- Monitoring and control: online analyzers, corrosion coupons, deposit analysis
- Troubleshooting scaling, corrosion, and microbiological problems
- Blowdown control and water conservation strategies
- Safety and handling of treatment chemicals
- Case studies of treatment program optimization

Day 3: Practical Integration, Troubleshooting, and Compliance

- Developing a water quality management plan
- Hands-on water sampling and testing (simulated or lab-based)
- Interpretation of test results and corrective actions
- Troubleshooting workshop: common problems and solutions
- Regulatory compliance: SANS, SAQA, and environmental regulations
- Reporting and documentation requirements
- Best practices for ongoing monitoring and maintenance
- 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 **6 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 17,900.00	R 17,900.00
1	In-House	R 23,300.00	R 23,300.00
1	On-Campus (Pretoria)	R 26,800.00	R 26,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	06 Aug 2026	On-Campus	Cape Town, South Africa
04 Aug 2026	06 Aug 2026	On-Campus	Lagos, Nigeria
05 Aug 2026	07 Aug 2026	On-Campus	Dubai, UAE
05 Aug 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	12 Aug 2026	On-Campus	Abu Dhabi, UAE
10 Aug 2026	12 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	13 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	13 Aug 2026	On-Campus	Dubai, UAE

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 110412) 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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