



## 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@aatikd.co.za](mailto:apply@aatikd.co.za) · Website: [www.aatikd.co.za](http://www.aatikd.co.za)

### COURSE BROCHURE

# Sand Clarifier Operation And Solution Clarification Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 110411 · NQF Level 2 · 6 Credits · 3 Days

## COURSE OVERVIEW

This course equips learners with the theoretical knowledge and practical skills required to operate sand clarifiers effectively and manage solution clarification processes. Participants will understand the principles of sedimentation, flocculation, and filtration to ensure optimal water or solution clarity in industrial settings. The training emphasizes safety protocols, troubleshooting, and regulatory compliance within the South African context.

|                 |                                           |
|-----------------|-------------------------------------------|
| Category        | Manufacturing, Engineering and Technology |
| Subfield        | Fabrication and Extraction                |
| Unit Standard   | 110411                                    |
| 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 sedimentation and flocculation to optimize sand clarifier operation.
- Demonstrate safe start-up, shutdown, and emergency procedures for sand clarifiers.
- Analyze solution clarity parameters and adjust process variables to meet quality specifications.
- Implement routine maintenance and troubleshooting techniques to minimize downtime.
- Evaluate the effectiveness of clarification processes using standard testing methods.
- Comply with relevant health, safety, and environmental regulations during clarifier operation.

## WHO SHOULD ATTEND

- This course is designed for process operators, plant technicians, and maintenance personnel involved in water treatment, mining, or chemical processing industries who are responsible for operating and maintaining sand clarifiers.

## COURSE OUTLINE

### Day 1: Fundamentals of Sand Clarifier Operation

- Introduction to sand clarifiers: types and applications
- Principles of sedimentation and filtration
- Components: inlet/outlet structures, sand bed, underdrains, backwash system
- Operational parameters: flow rate, loading rate, head loss
- Safety in clarifier operation: confined space, electrical, chemical hazards
- Overview of standard operating procedures (SOPs)

### Day 2: Monitoring, Control, and Troubleshooting

- Monitoring techniques: turbidity, pressure, flow measurement
- Control strategies: flow pacing, chemical dosing (if applicable)
- Troubleshooting: mud ball formation, channeling, sand loss
- Backwash procedures: initiation, rates, duration, waste handling
- Effect of temperature, solids loading, and particle size distribution
- Record keeping and reporting

### Day 3: Advanced Operation, Maintenance, and Optimization

- Preventive maintenance: inspection schedules, sand replacement, underdrain cleaning
- Performance optimization: adjusting backwash frequency, chemical optimization
- Integration with clarification systems: flocculation, sedimentation basins
- Regulatory compliance: effluent discharge standards, safety regulations
- Emergency procedures: power failure, equipment malfunction
- Case studies and best practices

## 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 | Dubai, UAE                 |
| 04 Aug 2026 | 06 Aug 2026 | On-Campus | Johannesburg, South Africa |
| 05 Aug 2026 | 07 Aug 2026 | On-Campus | Pretoria, South Africa     |
| 05 Aug 2026 | 07 Aug 2026 | On-Campus | Mauritius                  |
| 10 Aug 2026 | 12 Aug 2026 | On-Campus | Durban, South Africa       |
| 10 Aug 2026 | 12 Aug 2026 | On-Campus | Dubai, UAE                 |
| 11 Aug 2026 | 13 Aug 2026 | On-Campus | Pretoria, South Africa     |
| 11 Aug 2026 | 13 Aug 2026 | On-Campus | Mauritius                  |

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](http://www.aaticd.co.za), open the page for this course (Unit Standard 110411) 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](mailto: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.

### 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 · WhatsApp: +27 65 077 6310 · [apply@aaticd.co.za](mailto:apply@aaticd.co.za) · [www.aaticd.co.za](http://www.aaticd.co.za)