



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@aatid.co.za · Website: www.aatid.co.za

COURSE BROCHURE

Clarifier Mud Processing And Management Training

Agriculture and Nature Conservation / Secondary Agriculture

Unit Standard 114325 · NQF Level 2 · 11 Credits · 8 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to effectively manage clarifier mud processing and disposal in water treatment and industrial settings. Participants will understand the principles of clarifier operation, mud handling, and environmental compliance, ensuring safe and efficient plant operations.

Category	Agriculture and Nature Conservation
Subfield	Secondary Agriculture
Unit Standard	114325
Accreditation	SAQA Accredited · NQF Level 2 · 11 Credits
Duration	8 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply principles of clarifier operation to optimize mud processing and settling efficiency.
- Implement mud handling procedures including thickening, dewatering, and disposal in compliance with environmental regulations.
- Analyze mud characteristics and adjust processing parameters to maintain system performance.
- Evaluate safety risks associated with mud processing and implement appropriate control measures.
- Demonstrate proper monitoring and record-keeping for clarifier mud management activities.
- Design basic troubleshooting strategies for common clarifier mud processing issues.

WHO SHOULD ATTEND

- Operators, process controllers, and maintenance personnel working in water treatment plants, wastewater facilities, or industrial clarifier operations who are responsible for mud processing and management.

COURSE OUTLINE

Day 1: Introduction to Clarifier Mud and Regulatory Framework

- Sources and characteristics of clarifier mud.
- Overview of water and wastewater treatment processes.
- Environmental impacts of improper mud disposal.
- South African regulatory framework (NEM:WA, water use licences).
- Introduction to SAQA Unit Standard 114325.
- Key terminology: sludge, mud, solids, underflow.
- Safety basics in mud handling operations.

Day 2: Mud Properties, Sampling, and Characterisation

- Physical properties: density, particle size, settleability.
- Chemical properties: pH, alkalinity, metal content.
- Sampling methods: grab, composite, and continuous.
- Laboratory tests: total solids, suspended solids, volatile solids.
- Interpretation of test results.
- Quality assurance in sampling and testing.
- Record keeping and reporting.

Day 3: Mud Thickening and Dewatering Technologies

- Principles of thickening: sedimentation, flotation.
- Gravity thickeners: design and operation.
- Dissolved air flotation (DAF) thickeners.
- Mechanical thickeners: rotary drum, gravity belt.
- Dewatering equipment: centrifuge, belt filter press, recessed plate filter press.
- Polymer conditioning for improved dewatering.
- Performance monitoring: solids recovery, cake dryness.
- Troubleshooting common operational issues.

Day 4: Mud Stabilisation and Conditioning

- Objectives of stabilisation: odour control, pathogen reduction.
- Lime stabilisation: dosing, mixing, and contact time.
- Aerobic digestion: process theory and operational control.
- Anaerobic digestion: biogas production and digestate quality.
- Chemical conditioning: coagulants and flocculants.
- Pathogen reduction indicators (E. coli, helminth ova).
- Regulatory requirements for biosolids in South Africa.
- Safety considerations in chemical handling.

Day 5: Final Disposal and Beneficial Reuse Options

- Disposal options: landfill design and leachate control.
- Incineration: energy recovery and ash management.
- Land application: agronomic rates, heavy metal limits.
- Composting: co-composting with green waste.
- Alternative uses: cement kiln fuel, brick and tile manufacturing.
- Risk assessment: pathogen transmission, groundwater contamination.
- Case studies of beneficial reuse in South Africa.

- Elements of a mud management plan.

Day 6: Process Control and Optimisation

- Key performance indicators for mud processing.
- Monitoring tools: online solids analysers, flow meters.
- Statistical process control (SPC) basics.
- Optimisation of polymer dosing using jar tests.
- Energy management in dewatering equipment.
- Troubleshooting: poor cake quality, high polymer consumption.
- Standard operating procedures for process adjustment.
- Cost-benefit analysis of optimisation measures.

Day 7: Health, Safety, and Environmental Management

- Hazard identification: toxic gases, biological pathogens, mechanical hazards.
- Confined space entry procedures.
- Personal protective equipment (PPE) for mud operations.
- Job safety analysis (JSA) for routine tasks.
- Spill prevention and response plans.
- Environmental monitoring: air quality, groundwater.
- Waste classification and disposal documentation.
- Incident reporting and investigation.

Day 8: Integration, Case Studies, and Assessment

- Review of key concepts from Days 1–7.
- Case study: large municipal wastewater treatment plant.
- Case study: mining industry clarifier mud management.
- Group exercise: design a mud processing train.
- Presentation and peer feedback.
- Written assessment covering theory and calculations.
- Practical assessment: sampling, polymer dosing, equipment operation.
- Course evaluation and certification.

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 **11 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 30,700.00	R 30,700.00
1	In-House	R 39,900.00	R 39,900.00
1	On-Campus (Pretoria)	R 46,000.00	R 46,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
07 Aug 2026	18 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	19 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	20 Aug 2026	On-Campus	Dubai, UAE
12 Aug 2026	21 Aug 2026	On-Campus	Pretoria, South Africa
13 Aug 2026	24 Aug 2026	On-Campus	Abu Dhabi, UAE
14 Aug 2026	25 Aug 2026	On-Campus	Durban, South Africa
14 Aug 2026	25 Aug 2026	On-Campus	Mauritius
17 Aug 2026	26 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 114325) 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.

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 · www.aaticd.co.za