



## 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

# Advanced Tank Farm Operations in Oil and Gas

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0564 · NQF Level 5 · 20 Credits · 10 Days

## COURSE OVERVIEW

This advanced course equips experienced tank farm operators and supervisors with the technical, safety, and management competencies required to oversee complex oil and gas storage operations. It focuses on advanced operational procedures, risk management, regulatory compliance, and emergency response, ensuring safe and efficient tank farm management.

|                 |                                            |
|-----------------|--------------------------------------------|
| Category        | Custom Courses                             |
| Subfield        | Energy, Oil and Gas                        |
| Unit Standard   | AATICD-0564                                |
| Accreditation   | SAQA Accredited · NQF Level 5 · 20 Credits |
| Duration        | 10 days                                    |
| Training Method | Online, On-Campus, In-House                |
| Certificate     | Issued via AATICD LMS – verifiable online  |

## LEARNING OUTCOMES

- Apply advanced tank farm operational procedures to optimize throughput and product quality.
- Analyze complex operational risks and implement mitigation strategies to ensure safety and integrity.
- Evaluate the effectiveness of emergency response plans and conduct drills to improve preparedness.
- Design preventive maintenance schedules and inspection protocols to extend asset life and minimize downtime.
- Implement regulatory compliance measures and ensure adherence to environmental and safety standards.
- Demonstrate leadership in coordinating multi-disciplinary teams during routine and emergency operations.

## WHO SHOULD ATTEND

- This course is designed for senior tank farm operators, shift supervisors, and operations team leaders in the oil and gas industry who are responsible for safe and efficient tank farm operations.

## COURSE OUTLINE

### Day 1: Introduction to Advanced Tank Farm Operations

- Overview of tank farm systems and their functions
- Types of tanks and their applications
- Tank farm layout and design considerations
- Regulatory framework (OSHA, EPA, SANS, etc.)
- Introduction to API 650, API 653, and other relevant standards
- Environmental and safety management systems

### Day 2: Tank Design, Construction, and Maintenance

- Tank design codes and standards (API 650, API 653)
- Materials selection and corrosion protection
- Construction techniques: welding, bolting, and concrete
- Inspection and testing during construction
- Common tank failures: corrosion, cracking, and foundation issues
- Maintenance strategies: preventive and predictive

### Day 3: Instrumentation and Control Systems in Tank Farms

- Level measurement: radar, servo, and capacitance
- Temperature and pressure sensors
- Tank gauging systems and inventory management
- Control valves and actuators
- SCADA and DCS systems in tank farms
- Data acquisition and communication protocols

### Day 4: Transfer Operations and Piping Systems

- Transfer methods: gravity, pumping, and pressure
- Piping design and materials
- Valves and fittings
- Pump types: centrifugal, positive displacement, and others
- Transfer procedures and checklists
- Line flushing and pigging operations

### Day 5: Safety and Risk Management in Tank Farms

- Hazard identification: fire, explosion, toxic exposure, and spills
- Risk assessment methodologies (HAZOP, LOPA)
- Safety systems: fire suppression, gas detection, and relief systems
- Emergency response planning and procedures
- Permit-to-work systems and isolation procedures
- Personal protective equipment (PPE) requirements

### Day 6: Environmental Management and Spill Response

- Environmental regulations and compliance (e.g., NEMA)
- Spill prevention and secondary containment
- Spill response techniques and equipment
- Waste management and disposal
- Environmental monitoring and reporting

- Case studies of major spills and lessons learned

#### Day 7: Advanced Operational Procedures and Optimization

- Operational optimization: throughput, inventory, and scheduling
- Blending and homogenization processes
- Tank cleaning methods (manual, mechanical, and chemical)
- Sludge handling and disposal
- Energy management and reduction of losses
- Use of simulation and modeling tools

#### Day 8: Inspection, Testing, and Integrity Management

- Integrity management frameworks (API 653)
- Inspection planning and scheduling
- NDT methods: ultrasonic, magnetic particle, and radiographic
- Corrosion monitoring and control
- Repair techniques: welding, patching, and relining
- Fitness-for-service assessment

#### Day 9: Emergency Preparedness and Incident Command

- Emergency response planning elements
- Incident command system roles and responsibilities
- Communication and coordination
- Tabletop and full-scale exercises
- Post-incident analysis and reporting
- Continuous improvement of response plans

#### Day 10: Capstone Project and Course Review

- Capstone project: tank farm operational plan
- Presentation and peer review
- Review of key concepts and best practices
- Final assessment and feedback
- Course evaluation and next steps

## 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 **20 NQF credits** at **NQF Level 5**.

## PRICING (PER DELEGATE, EX-VAT)

| Delegates | Training Method      | Price per Delegate | Total       |
|-----------|----------------------|--------------------|-------------|
| 1         | Online               | R 27,600.00        | R 27,600.00 |
| 1         | In-House             | R 35,900.00        | R 35,900.00 |
| 1         | On-Campus (Pretoria) | R 41,400.00        | R 41,400.00 |

## UPCOMING SESSIONS

| Start       | End         | Method    | Venue                    |
|-------------|-------------|-----------|--------------------------|
| 30 Sep 2026 | 13 Oct 2026 | On-Campus | Maseru, Lesotho          |
| 30 Sep 2026 | 13 Oct 2026 | On-Campus | Shenzhen, China          |
| 01 Oct 2026 | 14 Oct 2026 | On-Campus | Blantyre, Malawi         |
| 02 Oct 2026 | 15 Oct 2026 | On-Campus | Mombasa, Kenya           |
| 02 Oct 2026 | 15 Oct 2026 | On-Campus | Victoria Falls, Zimbabwe |
| 05 Oct 2026 | 16 Oct 2026 | On-Campus | Kigali, Rwanda           |
| 05 Oct 2026 | 16 Oct 2026 | On-Campus | Lusaka, Zambia           |
| 06 Oct 2026 | 19 Oct 2026 | On-Campus | Nairobi, Kenya           |

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 AATICD-0564) 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.

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