



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

Drilling Engineering

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0392 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the fundamental principles and practices of drilling engineering, covering drilling operations, equipment, and safety. It prepares participants to contribute effectively to drilling projects by understanding key technical and managerial aspects.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0392
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply drilling engineering principles to plan and execute drilling operations.
- Analyze drilling data to optimize performance and troubleshoot issues.
- Evaluate drilling equipment and technologies for suitability in various conditions.
- Design drilling programs that adhere to safety and environmental regulations.
- Implement best practices for well control and drilling fluid management.
- Demonstrate effective communication and teamwork in drilling project environments.

WHO SHOULD ATTEND

- This course is designed for entry-level engineers, field technicians, and project coordinators in the oil, gas, and mining sectors who seek to enhance their drilling knowledge and skills.

COURSE OUTLINE

Day 1: Fundamentals of Drilling Engineering

- Overview of drilling engineering and its importance
- Drilling rig components: derrick, drawworks, mud pumps, rotary table, etc.
- Drilling process: well planning, spudding, drilling, casing, and completion
- Drilling fluids: functions, types, and properties (density, viscosity, filtration)
- Introduction to drilling bits and their selection
- Well control fundamentals: kicks, blowouts, and prevention
- Safety and environmental considerations in drilling operations

Day 2: Drilling Operations and Well Design

- Drilling fluid hydraulics: pressure losses, annular velocity, and hole cleaning
- Casing design: types, sizes, and setting depths
- Cementing operations: purposes, techniques, and quality control
- Drilling data acquisition: mud logging, drilling parameters, and wireline logs
- Directional drilling: principles, tools, and survey calculations
- Drilling optimization: rate of penetration, bit selection, and cost analysis
- Well control procedures: BOP equipment and kick handling

Day 3: Advanced Drilling Technologies and Practical Integration

- Underbalanced and managed pressure drilling
- Horizontal and multilateral wells
- Wellbore stability: geomechanics and mud weight windows
- Drilling problems: lost circulation, stuck pipe, and hole cleaning
- Drilling economics: cost estimation and AFE preparation
- Risk assessment and contingency planning
- Case studies of complex drilling operations
- Integration of all concepts in a comprehensive drilling plan

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 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 13,900.00	R 13,900.00
1	In-House	R 18,100.00	R 18,100.00
1	On-Campus (Pretoria)	R 20,800.00	R 20,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Oct 2026	07 Oct 2026	On-Campus	Kigali, Rwanda
05 Oct 2026	07 Oct 2026	On-Campus	Windhoek, Namibia
05 Oct 2026	07 Oct 2026	On-Campus	Bangkok, Thailand
06 Oct 2026	08 Oct 2026	On-Campus	Mbabane, Eswatini
06 Oct 2026	08 Oct 2026	Online	—
07 Oct 2026	09 Oct 2026	On-Campus	Nairobi, Kenya
07 Oct 2026	09 Oct 2026	On-Campus	Lusaka, Zambia
12 Oct 2026	14 Oct 2026	On-Campus	Blantyre, Malawi

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-0392) 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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