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

Subsea Engineering

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0452 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the fundamental principles and practical skills required for subsea engineering projects. It covers the design, installation, and maintenance of subsea systems, emphasizing safety, environmental responsibility, and industry best practices.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0452
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 subsea engineering principles to the design and selection of subsea production systems.
- Analyze subsea field architecture and flow assurance requirements for deepwater developments.
- Evaluate subsea installation and intervention methods, considering safety and operational constraints.
- Design subsea control systems and umbilicals, ensuring reliability and integrity.
- Implement subsea inspection, maintenance, and repair (IMR) strategies to extend asset life.
- Demonstrate understanding of subsea safety systems and environmental protection measures.

WHO SHOULD ATTEND

- This course is designed for engineers, technicians, and project managers involved in offshore oil and gas operations, as well as professionals seeking to enter the subsea engineering field.

COURSE OUTLINE

Day 1: **Fundamentals of Subsea Engineering**

- Overview of subsea field development and lifecycle.
- Subsea production systems: wellheads, Xmas trees, manifolds, and jumpers.
- Subsea control systems: hydraulic, electric, and fiber optic.
- Introduction to flow assurance: hydrates, wax, and slugging.
- Subsea power distribution and umbilical systems.
- Subsea installation methods and vessels.
- Regulatory and environmental considerations.
- Safety and risk management in subsea operations.

Day 2: **Subsea Equipment and System Design**

- Subsea pipeline design: wall thickness, material selection, and routing.
- Riser systems: types, configurations, and design considerations.
- Subsea processing: separation, boosting, and compression.
- Subsea control system architecture: topside, subsea, and communication.
- Reliability, availability, and maintainability (RAM) analysis.
- Subsea integrity management: inspection, monitoring, and repair.
- Subsea installation and intervention techniques.
- Case studies of subsea system design challenges.

Day 3: **Subsea Operations, Maintenance, and Future Trends**

- Subsea installation planning: vessels, equipment, and procedures.
- Commissioning and startup of subsea systems.
- Subsea inspection: ROVs, AUVs, and sensors.
- Subsea maintenance and repair techniques.
- Subsea monitoring: sensors, data acquisition, and analytics.
- Digital twins and predictive maintenance.
- Emerging technologies: all-electric subsea systems, subsea energy storage, and subsea robotics.
- Future trends: deepwater and ultra-deepwater developments, standardization, and automation.

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 18,700.00	**R 18,700.00**
1	On-Campus (Pretoria)	R 20,800.00	**R 20,800.00**

UPCOMING SESSIONS

Start	End	Method	Venue
01 Dec 2026	03 Dec 2026	On-Campus	Durban, South Africa
01 Dec 2026	03 Dec 2026	On-Campus	Lagos, Nigeria
02 Dec 2026	04 Dec 2026	On-Campus	Victoria Falls, Zimbabwe
02 Dec 2026	04 Dec 2026	On-Campus	Dubai, UAE
09 Dec 2026	11 Dec 2026	On-Campus	Maseru, Lesotho
09 Dec 2026	11 Dec 2026	On-Campus	Kigali, Rwanda
09 Dec 2026	11 Dec 2026	On-Campus	Accra, Ghana
09 Dec 2026	11 Dec 2026	On-Campus	Cape Town, South Africa

Contact us if no suitable date is listed — on-demand sessions can be arranged for groups.

HOW TO GET A QUOTATION OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard AATICD-0452) and click **Get A Quotation**. 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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