



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

Ship Construction Principles and Terminology

Law, Military Science and Security / Sovereignty of the State

Unit Standard 259403 · NQF Level 4 · 8 Credits · 5 Days

COURSE OVERVIEW

This course provides learners with a foundational understanding of ship construction principles and terminology, enabling them to identify major structural components and explain their functions. It equips participants with the knowledge to interpret basic ship design drawings and understand the key stages of shipbuilding, supporting effective communication and safety in maritime environments.

Category	Law, Military Science and Security
Subfield	Sovereignty of the State
Unit Standard	259403
Accreditation	SAQA Accredited · NQF Level 4 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Identify and describe the principal structural components of a ship, including hull, frames, bulkheads, and decks.
- Explain the functions of major ship systems such as propulsion, steering, and ballast systems.
- Interpret basic ship construction drawings and diagrams to locate key structural elements.
- Apply standard shipbuilding terminology to describe construction processes and materials.
- Demonstrate understanding of the stages of ship construction from design to launch.
- Analyze the relationship between ship structure and vessel stability, strength, and safety.

WHO SHOULD ATTEND

- This course is designed for entry-level maritime professionals, shipyard workers, marine engineering students, and logistics personnel who require a working knowledge of ship construction.
- It is also suitable for shore-based staff in shipping companies who need to understand vessel structures.

COURSE OUTLINE

Day 1: Introduction to Ship Construction and Terminology

- Overview of shipbuilding history and modern practices
- Ship types: cargo vessels, tankers, passenger ships, naval vessels
- Basic ship structure: hull, superstructure, decks, bulkheads
- Key terminology: keel, frames, stringers, plating, stiffeners
- Introduction to classification societies (Lloyd's, DNV, ABS)
- Regulatory framework: SOLAS, MARPOL, IMO conventions

Day 2: Materials and Strength of Ship Structures

- Shipbuilding materials: steel, aluminium, composites, wood
- Mechanical properties: tensile strength, yield, ductility
- Types of stresses: tensile, compressive, shear, bending, torsional
- Longitudinal strength: hogging and sagging
- Transverse strength: frames, beams, girders
- Corrosion types and prevention: coatings, cathodic protection, anodes

Day 3: Hull Construction and Structural Components

- Hull forms: single hull, double hull, double bottom
- Shell plating: strakes, seams, butts
- Framing systems: transverse, longitudinal, combined
- Bulkheads: watertight, non-watertight, collision bulkheads
- Decks and platforms
- Tanks: ballast, fuel, cargo, and their construction

Day 4: Superstructure, Outfitting, and Specialised Structures

- Superstructure design: strength, stability, accommodation
- Deckhouses, masts, and funnels
- Cargo access: hatches, ramps, cranes, derricks
- Mooring and anchoring equipment: bollards, fairleads, windlasses
- Specialised structures: ice-strengthened hulls, offshore vessels
- Fire protection: bulkheads, insulation, fire doors, sprinklers

Day 5: Construction Processes, Quality Control, and Practical Integration

- Shipbuilding process: design, material procurement, fabrication, assembly
- Welding techniques: arc, MIG, TIG, resistance welding
- Nondestructive testing (NDT): ultrasonic, radiographic, magnetic particle
- Survey and certification: hull surveys, load line, tonnage measurement
- Case studies: construction of a container ship and an oil tanker
- Future trends: modular construction, automation, green shipbuilding

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 **8 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 23,000.00	R 23,000.00
1	In-House	R 29,900.00	R 29,900.00
1	On-Campus (Pretoria)	R 34,500.00	R 34,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	21 Aug 2026	On-Campus	Pretoria, South Africa

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 259403) 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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