



**Introduction.** The 2024 WA Jobs, Education and Training (WAJET) Industry Survey required a 600 word profile on each occupation. Below is 231212 Ship's Engineer. The text below is open source and free for use when LDSC is correctly acknowledged. The text is open to correction. The Logistics and Defence Council (LDSC) welcomes input on 08 9388 8781 or <https://www.ldsc.asn.au/contact.html>

**Industry Advisory Group.** LDSC invites stakeholders to join our Maritime Industry Advisory Group 08 9388 8781 or <https://www.ldsc.asn.au/contact.html>

**Based on your Maritime industry consultations and the feedback provided please provide a 600 word summary for Occupation ANZSCO 231212 Ship's Engineer**

**ANZSCO definition.** The Maritime Occupation 231212 Ship's Engineer controls and manages the operation and maintenance of a ship's plant and equipment. Australian Maritime Safety Authority (AMSA) qualification is required. An alternative title is Marine Engineer. It is Skill Level 1.

**Qualification.** Engineer class 1 is the highest AMSA qualification in the career path for 231212 Ship's Engineer. South Metropolitan TAFE offers the MAR60120 Advanced Diploma of Marine Engineering (Class 1) that aligns with the AMSA certificate.

**Role.** The Engineer requires skills to understand the complexity of different engine types to maintain and repair vessels at sea. Vessels in the Offshore Oil & Gas sector demand a Ship's Engineer Class 1 plus additional endorsements.

**Ship's Engineer training pathway.** An example ship's crew has a Captain with a Masters Unlimited. There may be three technical officers/engineers under a Chief Engineer and three Deck Officers under a First Officer. There will be eight to 15 Deck Hands or Integrated Ratings. Ideally all Deck Officers are working through the AMSA pathway to an international Masters Unlimited to Captain a ship. Equally the Engineer Officers should be progressing to AMSA Engineer class 1. The fastest this can be achieved is nine years. For example: Third Mate to Second Mate three years - Second Mate to First Mate three years - First Mate to Master three years. There is a high attrition rate. Generally it takes 10 to 20 years to qualify Class 1.

**WA shortage.** There is an acute shortage of 231212 Ship's Engineer and feeder occupations 712911 Boiler or Engine Operator or Marine Engine Driver (MED) caused by the lack of Australian seagoing training berths. Many Ship's Engineers are employed on work visas from countries like New Zealand. There is a persistent shortage of the downstream landside occupation 231215 Marine Surveyor.

**Maritime skills crisis.** WA stakeholders report acute and persistent shortage of maritime workforce. Stakeholders acknowledge that the Training pathway is not working due to limited training berths on Australian ships. The Australian merchant fleet has shrunk from 100 to thirteen ships in three decades. This creates the acute shortage of 231212 Ship's Engineer, 231213 Ship's Master and 231214 Ship's Officer. This creates persistent shortages into downstream landside Maritime occupations such as Harbour Master, Marine Surveyor, Marine Assurance, Marine Superintendent, Cargo Planners, Regulators and Trainers. The tiny Australian flagged merchant fleet means training berths have disappeared. The loss of the training pipeline means that the maritime workforce is aging out. Australia is reliant on charter of foreign flagged vessels and international maritime workforce. International vessels carry the majority of coastal container shipping in Australia.

**Demand factors:**

- Global demand for WA iron ore, oil & gas
- Global demand for WA wheat
- Demand for Engineers and Technicians

**Supply factors:**

- Limited training berths on Australian ships
- Aging out of Maritime workforce
- Cost of training
- Long lead time to obtain licence
- AMSA licensing or compliance requirements
- Additional sea-time for specialist roles
- Competition for Engineers and supporting technical workforce

**Sovereign capability.** Establishing an effective Australian Training Pathway for Ship's Master, Ship's Engineer and Ship's Officers in a global shipping market is one part of Sovereign capability: The Commonwealth must lead. For training berths there must be Australian ships. Investment in an Australian flagged merchant fleet must include discussion of investment in port infrastructure and shipbuilding. Ultimately Australian foreign and defence policies will dictate Australian projection into the Indo-Pacific and policy on sovereign control of ports and shipping will follow. Commonwealth policy will follow the Australian Government Response to the Strategic Fleet Taskforce Final report November 2023. For example coastal shipping reform per Recommendation 6: Coastal trading review.

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