

1. Title	Maintenance and repairs of ships in dock (on slip)
2. Code	EMSRRM303A
3. Range	Apply the techniques and knowledge of ship repairs and marine-engine rehabilitation to regular or periodic maintenance of load-carrying ships when handling daily tasks related to maintenance and repairs of ships in dock, ensuring that the ships meet the requirements of respective surveying bodies and the conditions of seaworthiness; assist in planning shipyard work and general frontline management for urgent repairs of ships and marine engineering equipment.
4. Level	3
5. Credit	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Preparations before docking and undocking arrangements</p> <ul style="list-style-type: none"> ◆ Know about the types, sizes, weights of the ships to be docked; assist in preparing slipway, ship cradle, rising platform according to the drawings and information provided by the concerned ship ◆ Request the concerned ship to adjust to appropriate bow and stern draught difference, load distribution, hull balance, and working conditions of the anchor winch and gypsy winch according to the condition of the dock (slipway) ◆ Assist in preparations, arrangements and implementation after docking, including connection to onshore power; provision of fire services water, fresh water, compressed air, cooling water of cooling system, temporary sanitation utilities and treatment facilities for life wastes ◆ Understand the distribution of oil and water tanks on ship and their stock ◆ Assist in preparing for the ship the safety equipment (including safety measures during typhoons, fire prevention and control of oil spills) at worksites within the dockyard ◆ Maintain and repair equipment and facilities of docks(slipway) ◆ Know about the inspection items (including classification, annual inspection and special inspection) required by surveying bodies, and the conditions for seaworthiness <p>6.2 Methods of repairing ships docking (on slip)</p> <ul style="list-style-type: none"> ◆ Master the methods and arrangements of repairing and replacing hull plates ◆ Master the sequence of the processes of washing and painting hull plates ◆ Master the methods of inspecting, surveying, reversing and replacing anchor chains

	<ul style="list-style-type: none"> ◆ Master the methods of inspecting, repairing and surveying rudder blades and rudder bearings ◆ Master the methods of surveying tail-shaft subsidence and tail-shaft bearing, shaft centering and of inspecting, surveying, repairing and replacing shaft and shaft seal ◆ Master the methods of surveying, inspecting, repairing, polishing and removing/assembling propellers ◆ Master the methods of inspecting and repairing submarine valve boxes/grilles, submarine valves and sea valves ◆ Master the repairing of the grilles of the valves and suction inlets on the lateral side of a ship <p>6.3 Professionalism in maintaining docking ships and repairing ships docking (on slip)</p> <ul style="list-style-type: none"> ◆ Know about relevant docking diagrams, propeller drawings, shafting diagrams, layout plans of oil and water tanks and layout plans of fire services equipment ◆ Assess repair items and allocate resources appropriately ◆ Know about the details of and the requirements on the inspection items of the underwater sections specified by classification societies ◆ Examine underwater sections, tail-shafts, propellers, rudder blades, and rudder columns and advise on repairs according to needs ◆ Compile simple repair reports and records
<p>7. Assessment Criteria</p>	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> (i) Capable to arrange the docking of ships according to the noting points; (ii) Capable to select and use appropriate methods to identify the inadequacy and damage in hulls, main and auxiliary engines, stern frames, rudders and other safety equipment at shipyards and adopt appropriate measures to repair and replace damaged parts; and (iii) Capable to select and use appropriate tools and materials and operate large machinery so as to carry out maintenance and routine repairs (or urgent repairs) of large components of ships on slip in dock.
<p>8. Remarks</p>	<p>The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of repairing ship structure and main and auxiliary engines (such as EMSRRM101A “Repairs of marine engineering equipment and machines” and EMSRRM206A “Repair and maintain ship hull and its structural elements”) and is able to take precautions for working in confined spaces.</p>