

# Overview of Technical Skills and Competencies

## Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Business Finance	Budgeting	Prepare organisational budgets to support short- and long-term business plans through forecasting, allocation and financial policy setting			●	●	●	●
	Cash Flow Reporting	Maintain business units' cash flow reports by consolidating data and monitoring cash inflow and outflow transactions			●	●		
	Claims Processing	Manage claims processing to ensure accurate and timely payment on laytime and demurrage billing.			●	●		
	Credit Risk Management	Establish the organisation's financial and credit policies to assess the organisation's credit risk exposure			●	●	●	
	Financial Analysis	Manage the financial performance of the organisation and its business units using financial analysis techniques and tools			●	●	●	
	Financial Management	Facilitate strategic decision-making on the organisation's business finances by collating, verifying and analysing financial data in reports			●	●	●	●
Business Development	Business Data Analysis	Implement data analytics within the organisation to generate business insights and intelligence through the use of statistical and computational techniques and tools, algorithms, predictive data modelling and data visualisation		●	●	●	●	
	Business Negotiation	Conduct negotiations to establish win-win outcomes for the organisation			●	●	●	●
	Business Planning	Identify, evaluate, strategise and seize new business opportunities to grow the organisation's business operations			●	●	●	
	Market Research	Plan and conduct market research to support the organisation's business strategies and needs.			●	●	●	
	Networking	Identify and establish industry stakeholder relationships at all levels of business operations to further the organisation's strategies and objectives			●	●	●	●
	Proposal Writing	Research, strategise and draft business proposals to respond to business opportunities			●	●		
Cargo Operations	Bulk Cargo Operations	Perform loading and unloading of bulk cargo	●	●	●			
	Cargo Loading and Unloading	Perform loading and unloading of cargo to and from ships by planning cargo operations with due consideration for safety precautions, cargo types and proper use of equipment		●	●	●		
	Container Operations	Perform container cargo loading and unloading through the use of quay cranes and coordination between wharves and container yards		●	●			
	Documentation and Administration	Manage and maintain shipping documents (e.g. cargo import and export documents, shipping permits, bills of lading, booking lists, shipping permits and, delivery orders) which are necessary to commence the loading and unloading operations		●	●	●		
	Lashing	Carry out lashing operations with proper adherence to Workplace Safety and Health (WSH) requirements and coordination of lashing teams	●	●	●			
	Mobile Equipment - Heavy Duty Prime Mover and Trailer Operation	Support loading and unloading of cargo at wharves and yards through the use of heavy duty prime movers and trailer	●	●	●			
	Mobile Equipment - Prime Mover Defensive Driving	Apply defensive driving rules in operating prime movers at the port	●					
	Rigging and Signalling	Execute load-lifting operations on cargo with proper adherence to Workplace Safety and Health (WSH) requirements, signalling and communication protocol and diligent care for lifting equipment	●		●			

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	Ship Operations	Coordinate and support ship operations, including berthing, resupplying, and cargo loading and unloading	●	●	●	●	●	
	Single Stack Medium Forklift Operations	Operate single stack medium forklift for container operations			●			
	Workplace Safety and Health for Crane Operations	Carry out port crane operations in compliance with Workplace Safety and Health (WSH) legislative requirements	●	●				
<b>Customer Experience</b>	Service Excellence	Create a positive customer experience to enhance the organisation's customer experience		●	●	●	●	
<b>Enterprise Risk Management</b>	Business Continuity Management	Develop and implement business continuity plans for organisational preparedness of disruptive events			●	●	●	●
	Crisis Communication	Establish and execute crisis communication plans to relay essential messages to stakeholders within the broader context of business continuity and crisis management				●	●	
	Crisis Management	Develop and implement crisis management plans for organisational preparedness of disruptive events within the broader context of business continuity management			●	●	●	●
	Risk Compliance and Governance	Enforce corporate governance and risk compliance within the organisation through the establishment of policies, compliance programmes and management systems				●	●	●
	Risk Control and Response Planning	Establish and manage enterprise risk control and response activities to suit the organisation's risk appetite and strategic organisational goals				●	●	●
<b>Fleet Management</b>	Crew Management	Manage crew staffing for ships by hiring, training, assigning duties to the crew members and evaluating their performance			●	●		
	Dry Dock Project Management	Apply technical ship and maritime knowledge to manage dry dock-based repair and maintenance of ship assets, by specifying repair requirements, selecting suitable dry docks and overseeing the actual repair work				●	●	
	Fleet Procurement	Acquire ship fleets, either through purchase or charter, for the organisation as business assets to fulfil operational needs and shipping orders			●	●	●	
	Ship Compliance Management	Maintain validity of ship assets' certifications and fulfilment of requirements for new or renewed certification to facilitate continued ship deployment for business operations				●	●	
	Ship Cyber Security	Maintain the cyber security of the organisation's fleet				●	●	●
	Ship Energy Efficiency	Optimise ships' efficient energy utility while in operation through the formulation and implementation of Ship Energy Efficiency Management Plans (SEEMP)				●	●	
	Ship Maintenance and Repair (Dock)	Manage scheduling, resources and engineering work methods at the docks for maintenance on ships' equipment and systems to achieve renewal and extension of classification certificates				●	●	
	Ship Repair Management	Manage repair and maintenance operations on ship assets				●	●	
<b>Human Resource</b>	Employee Relations	Manage and enhance employee relations, which include investigating claims and managing negotiations			●	●	●	
	Learning and Development	Implement learning and development frameworks to facilitate the learning needs of the organisation			●	●		

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	Manpower Planning	Develop and implement manpower plans to support the organisation's operational needs			●	●	●		
Marine Engineering	Electrical, Electronic and Control Engineering	Manage and monitor electrical, electronic and control engineering systems		●	●	●			
	Engineering Watch	Maintain and contribute to an engineering watch		●	●				
	Maintenance and Repair	Manage and oversee shipboard maintenance and repairs	●	●	●	●			
	Propulsion, Plant and Machinery	Manage propulsion plant and machinery and transfer, bilge and ballast operations		●	●	●			
	Ship Seaworthiness and Pollution Prevention	Ensure ship stability and compliance to pollution-prevention measures		●	●	●			
	Marine Surveying	Hull Inspections	Conduct hull inspections to determine hulls' integrity and seaworthiness				●	●	
Marine Incident and Accident Investigations		Investigate different types of marine incidents and accidents in collaboration with other relevant agencies, where necessary, to determine their causes and recommend preventive measures				●	●		
Marine Survey Reporting		Prepare and approve marine survey reports to set out technical findings and recommendations				●	●		
Ship Propulsion Inspections		Inspect ship propulsion systems as part of marine surveys				●	●		
Pilotage	Pilotage Emergencies	React and respond to problems and emergency situations in the course of pilotage				●	●		
	Pilotage Planning	Plan an act of pilotage				●	●		
	Tug Operations	Carry out tug operations and work with tugs during pilotage operations		●	●	●			
Port Equipment	Condition-based Monitoring	Perform engineering and equipment maintenance with condition-based monitoring techniques and tools			●	●	●		
	Port Equipment Maintenance	Diagnose and service faults in crane mechanisms for lifting and moving cargo loads	●	●	●	●	●	●	●
Port Operations	Port Call Planning	Organise, oversee and coordinate all aspects of the port call, from booking of berth allocations and services before arrival to finalising of accounts after departure		●	●	●			
	Quality Systems	Apply quality considerations and practices in port operations		●	●	●			
Ship Broking and Chartering	Chartering	Drive the organisation's chartering business and monitor key performance indicators			●	●	●		
	Ship Financing	Coordinate finance options for the sale and purchase of ships			●	●	●		
	Ship Sale and Purchase	Execute the sale and purchase of ships in the organisation and ensure adherence to legislative requirements and organisation procedures			●	●	●		
	Ship Valuation	Gather and analyse information on ship valuation		●	●				
Ship Emergency, Occupational Safety and Survival	Fire Prevention and Fire Fighting	Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire	●	●	●	●			
	Personal Survival Techniques	Survive at sea in the event of ship abandonment	●						
	Ship Medical Care	Provide medical first aid and take charge of follow-up medical care on board ships by taking immediate action in the case of accidents and illnesses likely to occur on board ships	●	●					
	Ship Security	Execute security duties on board ships to ensure safety and security		●	●	●			
	Survival Craft and Rescue Boats	Launch and take charge of a survival craft or rescue boat in emergency situations	●	●					

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Ship Handling and Seamanship	Chartwork	Using charts, chartwork instruments and position-fixing techniques to create voyage plans	●	●				
	Steering and Helmsmanship	Manoeuvring of vessels, which covers securing, anchoring and mooring gear on completion, securing the vessel prior to departure and preparing for heavy weather	●					
	Ship Mooring, Anchoring and Securing Operations	Steer and manoeuvre ships safely while complying with helm orders	●	●				
Ship Navigation	Navigation and Position Determination	Plan voyages and perform navigation			●	●		
	Navigation and Position Determination (Special Limit)	Plan a voyage and perform navigation within the Special Limit		●	●			
	Navigation Watch	Conduct navigational watches to ensure ships' safe passage			●	●		
	Navigation Watch (Special Limit)	Conduct navigational watches within the Special Limit to ensure safe passage of ships	●	●				
	Search and Rescue Operations	Manage and respond to search and rescue operations at sea		●	●	●		
Shipboard Operations	Cargo Handling and Stowage	Handling and stowage of cargo and ensuring its care during the voyage		●	●	●		
Shipboard Safety Management Systems	Ship Safety Management System Audit	Carry out audits of shipboard safety management systems to ensure compliance with regulatory requirements			●	●	●	
Strategic Planning	Innovation	Foster a culture of innovation across the organisation through ideation thereby enhancing efficiency and productivity			●	●	●	●
	Organisational Strategy and Policy Realisation	Making management decisions to establish, review and refine strategic organisational objectives and policies through collation and analysis of relevant organisational and business information			●	●	●	●
	Resource Management	Plan and allocate resources to ensure optimisation of resources and sustainability of business operations			●	●	●	
Systems Engineering	Architecture Design	Synthesise system architecture baselines that satisfy stakeholder requirements			●	●	●	
	Configuration Management	Establish consistency in performance, functional, and physical attributes throughout a system's life cycle			●	●	●	●
	Interface Management	Perform interface management activities to integrate systems			●	●	●	●
	Systems Integration	Realise the system-of-interest by progressively combining system elements in accordance with architectural design requirements and the integration strategy			●	●	●	
Workplace Safety and Health	Work at Heights	Perform the duties of an entrant and attendant, with proper supervision and safety precautions, when working in confined spaces	●		●			
	Confined Space Work	Maintain Workplace Safety and Health (WSH) standards and practices when working at heights by establishing safety protocols and complying with regulatory and other Work at Height (WAH) and WSH requirements	●		●			

## General Descriptors for Technical Skills and Competencies (TSCs)

Level	Responsibility (Degree of supervision and accountability)	Autonomy (Degree of decision-making)	Complexity (Degree of difficulty of situations and tasks)	Knowledge and Abilities (Required to support work as described under Responsibility, Autonomy and Complexity)
6	Accountable for significant area of work, strategy or overall direction	Empowered to chart direction and practices within and outside of work (including professional field/community), to achieve/ exceed work results	Complex	<ul style="list-style-type: none"> <li>• Synthesise knowledge issues in a field of work and the interface between different fields, and create new forms of knowledge</li> <li>• Employ advanced skills, to solve critical problems and formulate new structures, and/or to redefine existing knowledge or professional practice</li> <li>• Demonstrate exemplary ability to innovate, and formulate ideas and structures</li> </ul>
5	Accountable for achieving assigned objectives, decisions made by self and others	Provide leadership to achieve desired work results; Manage resources, set milestones and drive work	Complex	<ul style="list-style-type: none"> <li>• Evaluate factual and advanced conceptual knowledge within a field of work, involving critical understanding of theories and principles</li> <li>• Select and apply an advanced range of cognitive and technical skills, demonstrating mastery and innovation, to devise solutions to solve complex and unpredictable problems in a specialised field of work</li> <li>• Manage and drive complex work activities</li> </ul>
4	Work under broad direction  Hold accountability for performance of self and others	Exercise judgment; Adapt and influence to achieve work performance	Less routine	<ul style="list-style-type: none"> <li>• Evaluate and develop factual and conceptual knowledge within a field of work</li> <li>• Select and apply a range of cognitive and technical skills to solve non-routine/abstract problems</li> <li>• Manage work activities which may be unpredictable</li> <li>• Facilitate the implementation of innovation</li> </ul>
3	Work under broad direction  May hold some accountability for performance of others, in addition to self	Use discretion in identifying and responding to issues, work with others and contribute to work performance	Less routine	<ul style="list-style-type: none"> <li>• Apply relevant procedural and conceptual knowledge and skills to perform differentiated work activities and manage changes</li> <li>• Able to collaborate with others to identify value-adding opportunities</li> </ul>
2	Work with some supervision Accountable for a broader set of tasks assigned	Use limited discretion in resolving issues or enquiries. Work without frequently looking to others for guidance	Routine	<ul style="list-style-type: none"> <li>• Understand and apply factual and procedural knowledge in a field of work</li> <li>• Apply basic cognitive and technical skills to carry out defined tasks and to solve routine problems using simple procedures and tools</li> <li>• Present ideas and improve work</li> </ul>
1	Work under direct supervision Accountable for tasks assigned	Minimal discretion required. Expected to seek guidance	Routine	<ul style="list-style-type: none"> <li>• Recall factual and procedural knowledge</li> <li>• Apply basic skills to carry out defined tasks</li> <li>• Identify opportunities for minor adjustments to work tasks</li> </ul>