



Course outline

Competence	Knowledge, understanding and proficiency	Time allocation (hrs)
<i>PLAN A VOYAGE AND CONDUCT NAVIGATION</i>	1. Voyage planning and navigation (Appraisal, Planning, Execution & Monitoring) for all conditions by acceptable methods of plotting ocean tracks, taking into account; <ul style="list-style-type: none"> .1 areas of restricted/confined/pilotage waters .2 expected meteorological conditions .3 encountering or navigating in ice .4 encountering restricted visibility .5 traffic separation schemes en-route .6 vessel traffic service (VTS) areas .7 areas of extensive tidal effects .8 navigational hazards and no go areas .9 making landfall .10 accuracy of position fixing required in critical areas .11 expected traffic density .12 ensuring adequate fuel, water and provisions .13 ensuring the safety of the personnel, property and the environment .14 ship reporting requirements in vessel traffic service (VTS) and other reporting areas .15 vessel condition, draught, trim and handling characteristics 	5.0
	2. Navigation and Monitoring of the voyage	0.5
<i>COORDINATE SEARCH AND</i>	1. A thorough knowledge of and ability to apply the procedures contained in the International	0.5



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RESCUE	<p>Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</p> <p>.1 Knowledge of and ability to apply the procedures contained in the IAMSAR Manual</p> <p>.2 Knowledge of helicopter rescue operations</p>	
ESTABLISH WATCHKEEPING ARRANGEMENTS AND PROCEDURES	<p>1. Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended</p> <p>.1 Ability to identify various light and shapes according to COLREGS</p> <p>.2 Ability to take appropriate actions in various situations according to COLREGS</p>	1.0
	<p>2. Thorough knowledge of IALA buoyage system</p>	0.25
	<p>3. Thorough knowledge of the content, application and intent of the Principles to be observed in keeping a navigational watch</p> <p>.1 Principles to be observed in keeping a navigational watch</p>	0.5
BRIDGE RESOURCE MANAGEMENT, LEADERSHIP & TEAMWORK	<p>1. Bridge Resource Management</p> <p>.1 BRM Concept</p> <p>.2 Error Chain Analysis, Risk Assessment and Management, Situational Awareness</p> <p>.3 Leadership, Bridge Organization and Teamwork</p> <p>.4 Effective Communications, Challenge and Response</p> <p>.5 Judgment and Decision-Making</p> <p>.6 Emergency Situation Preparedness, Crisis and Crowd Management</p>	1.5



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	<p>2. Leadership & teamwork</p> <p>.1 Knowledge of shipboard personnel management and training</p> <ul style="list-style-type: none"> i. Organization of crew, authority structure and responsibilities ii. Cultural awareness, inherent traits, attitudes and behaviours, cross-cultural communication iii. Leadership and team working iv. Training, structured shipboard training programme <p>.2 Ability to apply task and workload management</p> <ul style="list-style-type: none"> i. Planning and co-ordination ii. Personnel assignment iii. Human limitations iv. Time and resource constraints v. Prioritization vi. Management (leadership) styles <p>.3 Knowledge and ability to apply decision-making techniques</p> <ul style="list-style-type: none"> i. Decision making and problem solving techniques ii. Emergency management 	
<p><i>FORECAST WEATHER AND OCEANOGRAPHIC CONDITIONS</i></p>	<p>1. Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax</p> <p>.1 Synoptic and prognostic charts and forecasts from any source</p>	<p>0.5</p>



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	<p>.2 The range of information available through fax transmission, internet and email</p> <p>.3 Weather forecasting</p>	
	<p>2. Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centres and the dangerous quadrants</p> <p>.1 Tropical revolving storms (TRS)</p> <p>.2 The guiding principles relating to the safety of navigation in the vicinity of ice</p>	1.0
	<p>3. Knowledge of ocean current systems</p> <p>.1 Surface water circulation of the ocean and principal adjoining seas</p>	0.25
<i>RESPOND TO NAVIGATIONAL EMERGENCIES</i>	<p>1. Precautions when beaching a ship</p> <p>2. Action to be taken if grounding is imminent, and after grounding</p> <p>3. Refloating a grounded ship with and without assistance</p> <p>4. Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>5. Assessment of damage control & damage stability booklet</p> <p>6. Emergency steering</p> <p>7. Emergency towing arrangements and towing procedure/Emergency towing plan</p>	1.0
<i>MANOEUVRE AND HANDLE A SHIP IN ALL CONDITIONS</i>	<p>Manoeuvring and handling a ship in all conditions, including:</p> <p>.1 manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances</p>	0.5



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	.2 handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response	0.5
	.3 manoeuvring in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching	0.5
	.4 interaction between passing ships and between own ship and nearby banks (canal effect)	0.5
	.5 berthing and un-berthing under various conditions of wind, tide and current with and without tugs	0.5
	.6 ship and tug interaction	0.5
	.7 Procedures for anchoring in deep water and in shallow water	0.25
	.8 Dragging anchor	0.25
	.9 management and handling of ships in heavy weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea, lessening drift and use of oil	1.0
	.10 precautions in manoeuvring to launch rescue boats or survival craft in bad weather	0.5
	.11 methods of taking on board survivors from rescue boats and survival craft	0.5
	.12 dry-docking, both with and without damage	0.5
<i>PLAN AND ENSURE SAFE LOADING, STOWAGE, SECURING, CARE DURING THE VOYAGE AND</i>	1. Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes .1 Plans and Actions Confirm with International Regulations	1.0



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UNLOADING OF CARGOES	.2 Compliance with the Minimum Freeboard Requirements of the Load Line Regulations	
	2. Stowage and securing of cargoes on board ships, including cargo-handling gear and securing and lashing equipment .1 Timber Deck Cargoes .2 Container cargo .3 Maintenance of Cargo Gear .4 Maintenance of Hatch Covers	1.0
	3. Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing .1 Loading, Stowage, Securing and Discharge of Heavy Weights .2 Knowledge of the contents and ability to refer cargo securing manual	1.0
	4. General knowledge of tankers and tanker operations .1 Contents and Application of the International Safety Guide for Oil Tankers and Terminals (ISGOTT) .2 Oil Tanker Operations and Related Pollution-prevention Regulations .3 Chemical Tankers .4 Gas Tankers	2.0
	5. Knowledge of the operational and design limitations of bulk carriers .1 Operational and design limitations of Bulk carriers .2 SOLAS Chapter XII Additional Safety Measures for Bulk Carriers .3 Common Structural Rules (CSR) of Bulk and	1.0



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	tankers	
	<p>6. Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes</p> <p>.1 Application of all available shipboard data related to loading, care and unloading of bulk cargoes</p> <p>.2 Code of practice for the safe loading and unloading of bulk carriers (BLU code)</p>	1.0
	<p>7. Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as;</p> <p>.1 IMDG Code</p> <p>.2 IMSBC Code</p> <p>.3 MARPOL 73/78 Annexes III and V and other relevant information</p>	1.5
<i>CARRIAGE OF DANGEROUS GOODS</i>	<p>1. International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code</p> <p>.1 International Regulations and Codes</p>	1.0
	<p>2. Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage</p> <p>.1 Dangerous Goods in Packages (IMDG Code)</p> <p>.2 Solid Bulk Cargoes (IMSBC Code)</p> <p>.3 International Code for the Safe Carriage of Grain in Bulk (International Grain Code)</p> <p>.4 Emergency procedures and preparedness</p>	2.0
<i>CONTROL TRIM, STABILITY AND</i>	<p>1. Understanding of the theories and factors affecting trim and stability and measures necessary to preserve</p>	2.0



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STRESS	trim and stability .1 Trim and List .2 Approximate GM by Means of Rolling Period Tests .3 Shear Force, Bending Moments and Torsional Stress	
	2. Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken .1 Effect of flooding on Transverse Stability .2 Effect of Flooding on Trim	0.5
	3. Knowledge of IMO recommendations concerning ship stability .1 Responsibilities under the International Conventions and Codes .2 Intact Stability Requirements for the Carriage of Grain	1.0
	4. Dry docking	0.5
	5. Ability to use pro-forma stability calculations	1.0
MONITOR AND CONTROL COMPLIANCE WITH LEGISLATIVE REQUIREMENTS AND MEASURES TO ENSURE SAFETY OF LIFE AT SEA, SECURITY AND THE PROTECTION OF THE MARINE	1. certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity	0.5
	2. maritime declarations of health and the requirements of the International Health Regulations .1 Arrival documents and procedures [International Health Regulations (2005) as amended (IHR)]	0.5
	3. Responsibilities under other international maritime law embodied in international agreements and conventions that impact on the role of management	3.0



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ENVIRONMENT	level deck officers	
	.1 Maritime Labour Convention (MLC 2006)	
	.2 Assistance and Salvage	
	.3 Cargo	
	i. Procedures for Receiving, and Delivering Cargo	
	ii. Charter Parties	
	iii. Rotterdam rules	
	.4 General Average and Marine Insurance	
	i. Noting and Extending Protests	
ii. Letter of protest		
4. Port of refuge procedures	0.5	
5. The master/pilot relationship	0.5	
6. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW) as amended	0.5	
7. Code of conduct for merchant seaman	0.5	
8. responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo	0.5	
i. Port state control		
9. methods and aids to prevent pollution of the marine environment by ships	0.5	
.1 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969		
.2 International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969)		
.3 Bunkers Convention 2001		



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	10. national legislation for implementing international agreements and conventions .1 Sri Lankan Merchant Shipping Notices (MSN)	0.5
<i>COMPLIANCE WITH THE CHANGES OF INTERNATIONAL AND LOCAL LEGISLATION AND MARINE UPDATES RELEVANT TO SAFETY, SECURITY, POLLUTION PREVENTION & ADMIRALTY LAW</i>	Amendments to international Conventions, Codes & guide lines	6.0
	Amendments to local legislations & latest M notices	2.0
	Innovations, updates & changes to marine industry	3.0
	Case studies which includes minimum of three different topics	3.0
	Piracy & armed robbery updates	1.0
	Updates to Admiralty maritime law	3.0
Total		60.0