

**Deck Officer Class I - Certificate of Competency
(Master on ships of 3,000 gross tonnage or more)
Online Training Course
(STCW Convention 1978 as amended, Regulation II/2 &
STCW Code Section A-II/2)**

(A) System of Maritime Education & Training, Examination and Certification for Deck Officer Class I - Certificate of Competency Online Training Course

The Examination for certification of **Deck Officer Class I** (Master on ships of 3,000 gross tonnage or more) consists of Continuous Assessment and Oral Examination.

1. Every candidate for certification shall:
 - (A) hold the Deck Officer Class II - Certificate of Competency;
 - (B) have approved seagoing service of not less than 12 months as a Chief Mate on ships of 3,000 gross tonnage or more or not less than 24 months as an Officer in charge of a navigational watch on ships of 500 gross tonnage or more while holding Deck Officer Class II Certificate of Competency; and
 - (C) have successfully completed the Continuous Assessment for the following Nautical Subjects during the period of the Approved Deck Officer Class I online training course (12- weeks) at the respective Approved Maritime Training Centres (MTCs)
 - (1) Navigation;
 - (2) Cargo Handling, Stability and Shipboard Operations; and
 - (3) Maritime Legislative requirements.
2. The candidates, who have successfully completed the Approved Deck Officer Class I online training course, shall continue the Deck Officer Class I Oral Examination, which shall be conducted by the Department of Marine Administration (DMA).
3. The candidates, who have failed in the Oral Examination, shall have to attempt for the subsequent Oral Examination(s).
4. The DMA shall issue the Deck Officer Class I - Certificate of Competency to the candidates who have successfully completed the Oral Examination as well as holding the respective valid Certificates of Proficiency and Ship Manoeuvring and Handling Simulator Certificate which are required by the STCW Convention and STCW Code.

(B) Teaching System and Method of Demonstration for Deck Officer Class I - Certificate of Competency Online Training Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Navigation	132	Oral Examination (DMA)	1	90
Cargo Handling, Stability and Shipboard Operations (Cargo Handling & Stowage)	60			
Cargo Handling, Stability and Shipboard Operations (Ship Construction & Stability)	48			
Cargo Handling, Stability and Shipboard Operations (Ship Safety, Security, Damage Control & Management of Personnel)	60			
Maritime Legislative Requirements	72			
Total	372			

(C) Syllabus for Oral Examination of Deck Officer Class I - Certificate of Competency Online Training Course

1. NAVIGATION

1.1 Plan a voyage and conduct safe navigation

- .1 Voyage planning and navigation for all conditions
- .2 Routeing in accordance with the general provision on ship routeing
- .3 Routeing in accordance with the general principle for ship routeing systems and with VTS procedures

1.2 Determine and allow for compass errors

- .1 Principles of the magnetic compass
- .2 Principles and errors of gyrocompasses
- .3 Systems under the control of the master gyro and the operation and care of the main types of gyro-compasses
- .4 Care and maintenance of the magnetic compass and binnacle
- .5 Knowledge of how to find the magnetic bearing of a distant object and subsequent construction of a deviation card

1.3 Coordinate search and rescue operations

- .1 The procedures contained in international aeronautical and maritime search and rescue manual

1.4 Establish watchkeeping arrangements and procedure

- .1 International Regulations for preventing collisions at sea;
- .2 Principles to be observed in keeping a navigational watch
- .3 Bridge watchkeeping equipment and systems
- .4 A thorough knowledge of the principles of navigational watch-keeping at sea, including under pilotage, at anchor and in port;
- .5 Knowledge and application of the ICS Bridge Procedures Guide;
- .6 A knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.
- .7 Limitations and risks involved with the use of ECDIS and RCDS to assist command decision-making; inter-relationship and optimum of all navigational information available

1.5 Forecast weather and oceanographic conditions

- .1 Characteristics of various weather systems
- .2 Understand and interpret a synoptic chart and use of weather routing services
- .3 Danger messages and obligatory reporting requirements.
- .4 Weather forecasting
- .5 Ocean Current System

1.6 Respond to navigational emergencies

- .1 Precautions When Beaching a Ship
- .2 Action to be taken if grounding is imminent and after grounding
- .3 Refloating a grounded ship with and without assistance
- .4 Action to be taken if collision is imminent, after a collision or impairment of the watertight integrity of the hull by any cause
- .5 Assessment of damage control
- .6 Emergency steering
- .7 Emergency towing arrangements and towing procedures
- .8 Measures to be taken following exceptional circumstances including loss of rudder and/or propeller and impairment of watertight integrity of the ship through any cause
- .9 Plan and co-ordinate SAR operations, including establishing and maintaining effective Communications
- .10 Actions to be taken when disabled and in distress
- .11 Abandoning ship and survival procedure
- .12 SAR plans for passenger ships

1.7 Manoeuvring and handling a ship in all conditions

- .1 Approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances
- .2 Handling ship in rivers, estuaries and restricted water having regard to the effects of current, wind and restricted water on helm response
- .3 Application of constant rate of turn techniques
- .4 Manoeuvring in shallow water including the reduction in under-keel clearance caused by squat, rolling and pitching
- .5 Berthing and unberthing under various conditions of wind, tide and current with and without tugs
- .6 Ship and tug interaction
- .7 Use of propulsion and manoeuvring systems including various types of rudder
- .8 Choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used
- .9 Procedures for anchoring in deep water and in shallow water
- .10 Dragging anchor; clearing fouled anchors
- .11 Dry-docking both with and without damage
- .12 Management and handling 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
- .13 Precautions in manoeuvring to launch rescue boats and survival craft in bad weather

- .14 Ability to determine the manoeuvring and propulsion characteristics of common types of ships; with special reference to stopping distances and turning circles at various draughts and speeds
- .15 Importance of navigating at reduced speed to avoid damage caused by own ship's bow and stern waves
- .16 Practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board

1.8 Operate remote controls of propulsion plant and engineering systems and services

- .1 Operating principles of marine power plants
- .2 Ships & auxiliary machiner
- .3 General knowledge of marine engineering terms

2. Cargo handling and stowage

2.1 Plan and ensure safe loading, stowage, securing, care during voyage and unloading of cargoes

- .1 knowledge and ability to apply relevant international regulations, codes and guidelines concerning the safe handling, stowage, securing and transport of cargoes.

2.2 Assess reported defects and damage to cargo spaces hatch covers and ballast tanks and appropriate action

- .1 knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces;
- .2 ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling.

2.3 Carriage of dangerous goods

- .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;
- .2 Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage.

3. Controlling the operation of ship and care for persons on board

3.1 Control trim, stability and stress

- .1 Fundamental principles of ship construction, trim and stability
- .2 Effect on trim and stability in the event of damage and stability
- .3 Effect of heavy weather on the ship's structure
- .4 Effect upon ship behavior of lists, stiff and tender stability conditions, large angles of heel and associated righting precautions: the effect upon different cargoes

- .5 The importance of free surface effects and the identification and correction of an angle of loll
- .6 Specific effects on stability and stress caused by ship type or nature of trade.

3.2 Monitor and control compliance with legislative requirement and measures to ensure safety of life at sea and the protection of the marine environment

- .1 International maritime law embodied in international agreements and conventions

3.3 Maintain safety and security of crew and passengers and the operational condition of safety equipment

- .1 Organization of fire drill and abandon ship drill
- .2 Action to be taken to Protect and Safeguard all Persons on Board in Emergencies
- .3 Actions to Limit Damage and Save the Ship following a Fire, Explosion, Collision or Grounding
- .4 Manage to maintain safe engineering watch
- .5 Master's responsibility with respect to stowaways and prevention of smuggling
- .6 Precautions to safeguard against terrorism, piracy and armed robbery
- .7 Methods of pest control, fumigation of holds and living spaces, safeguards in applying various methods

3.4 Develop emergency and control plans and handle emergency situations

- .1 Preparation of contingency plans for response to emergencies; Contingency Plans for Response to Emergencies
- .2 Ship construction, including damage control
- .3 Methods and aids for fire prevention, detection and extinction
- .4 Functions and Use of Life-saving Appliances