PRINCIPLES OF SHIPHANDLING

(MNB-020-028-ENG)

Objectives :	To acquire fundamentals in ship handling. By use of practical exercises on a simulator, apply the competence and skills to develop the expertise required to handle ships.
Duration:	28 hours (4 days).
Schedule:	Training starts each day at 8 h 30. *This schedule may be tailored for specific requirements.*
Participants :	Three (3) participants.
Prerequisites:	Holding a superior certificate of competency in navigation.
Preferred teaching strategies:	Based primarily on a hands-on method. Succinct and theoretical explanations and exercises on a multidisciplinary navigation simulator.
Upgrading activities:	Theoretical and practical situations on a ship simulator. Exchanges between the participants is recommended during debriefing sessions.
Certification :	Issuance of a training certificate.

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Course Outline

1. **Presentations**
    i. Presentation of the trainers
    ii. Presentation of the participants
    iii. Defining goals and objectives

2. **Preparations for ship handling**
    a. Ship's characteristics
        i. Underwater area
        ii. Windage
        iii. Propulsion
            1. Main engine
            2. Propeller
        iv. Rudder
        v. Bow thruster
    b. Berth characteristics
        i. Available length and bearing
        ii. Depth
        iii. Nature of the seabed
        iv. Other ships at the dock
    c. Existing conditions
        i. Tide
        ii. Wind
        iii. Current
        iv. Visibility
    d. Resources available
        i. Docking master
        ii. Tugs
        iii. Linesmen
    e. Options available
        i. Point of no return
        ii. Choosing the best options
            1. anchors, mooring lines, side alongside etc.

3. **Familiarisation with the simulator**
    i. Propulsion
    ii. Wheel
    iii. Automatic pilot
    iv. Communications
    v. Views
    vi. Propellers
    vii. Preparations before the exercise

Course Outline continued

4. **Standard manœuvres**
    a. Emergency stop
        i. « Crash Stop »
        ii. « Low frequency rudder cycling »
        iii. « High frequency rudder cycling »
    b. Coming about
        i. « Williamson turn »
        ii. « Coming about »
        iii. « Accelerating turn »
    c. Shallow water effects
        i. Increase of the directional stability
        ii. Larger turning circle
        iii. Longer stopping distance
        iv. Speed variation during the turn
        v. Trim
    d. Definition of squat

5. **Pivot point**
    a. Definition
    b. Movement of the pivot point
    c. Use in ship handling
    d. Transverse trust

6. **Narrow channels**
    a. Bank effects
    b. Interaction between vessels
        i. Meeting
        ii. Passing
    c. Correlation between speed and the suction effects

7. **Wind and current effects**
    a. Wind effects in relation to the pivot point
    b. Current effects
    c. Combined effects of wind and current

8. **Use of anchors in ship handling**
    a. Choosing an anchorage
    b. Approach course and speed
    c. Anchoring techniques
    d. Use of anchors in ship handling

Course Outline continued

9. **Casting off**
    a. « Croupia »
    b. Casting off with current
    c. Casting off with wind

10. **Backing in**
    a. Without wind or current
    b. Port side alongside
    c. Starboard alongside

11. **Specific manoeuvres**
    a. Manoeuvres chosen by the participants

12. **Navigation in the Arctic**
    a. Navigation in ice infested water
    b. Weather conditions
    c. Ship to ship

13. **Conclusion :** Training evaluation