

K to 12 BASIC EDUCATION CURRICULUM
SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD MARITIME SPECIALIZATION
NAVIGATIONAL WATCH 1

Grade: 11

Subject Title: Navigational Watch 1

Semester: 1st Semester

No. of Hours: 80 hours

Co-requisite: Safety 1

Subject Description:

This course in Navigation Watch 1 is an introduction to Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978 as amended, relative to the certification of Ratings Forming Part of a Navigational Watch (RFPNW) in compliance with the mandatory minimum requirements for ratings as specified in Table A-II/4. This is designed for Senior High School (SHS) students to enhance their knowledge, understanding, and proficiency in accordance with maritime workplace standards. It focuses on the competency of steering the ship and complying with helm orders in the English language.

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCIES	CODE
<p>Introduction</p> <ol style="list-style-type: none"> 1. STCW convention and code as amended in 2010 Manila Amendments. 2. Paradigm of maritime career opportunities 3. Relevance of the course 	<p>The learners demonstrate an understanding of the basic concepts and underlying theories in Navigational Watch 1.</p>	<p>The learners shall be able to demonstrate an understanding of the competencies in Navigational Watch 1.</p>	<ol style="list-style-type: none"> 1. Explain STCW convention and code as amended in 2010 Manila Amendments. 2. Present paradigm of maritime career opportunities 3. Discuss the relevance of the course in relation to Rating Forming Part of Navigational Watch as a career 	
LESSON 1: STEER THE SHIP AND COMPLY WITH HELM ORDERS IN THE ENGLISH LANGUAGE (SSHO) (80 hrs)				
<ol style="list-style-type: none"> 1. Uses of magnetic and gyro compasses <ol style="list-style-type: none"> a. Definitions b. Types of compass c. Description of compass card and its equivalents d. Uses and limitations e. Differentiate magnetic compass from gyro compass f. Advantages and disadvantages of magnetic and gyro compass 	<p>The learners demonstrate an understanding of the basic concepts and underlying theories in steering the ship with compliance to helm orders</p>	<p>The learners shall be able to demonstrate competencies in steering the ship in compliance with mandatory minimum requirements for Ratings forming Part of Navigational Watch as specified in Table A-II/4 of STCW Code, 1978.</p>	<p>LO 1. Use magnetic and gyro compass (12 hrs)</p> <ol style="list-style-type: none"> 1.1 Describe compass and its parts 1.2 Differentiate the various types of compasses 1.3 Determine the limitations of the compass 1.4 Box the compass 1.5 Verify readings between the magnetic and gyro compasses or vice versa 	TVL_MNW11SSHO-Ia-c-1

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CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCIES	CODE
2. Helm orders a. Manner of giving correct orders/commands b. Different helm orders: b.1 Midship b.2 Starboard 5, 10, 15... b.3 Port 5, 10, 15... b.4 Hard Starboard b.5 Hard Port b.6 Easy or Ease to 5, 10, 15... b.7 Shift rudder b.8 Steady b.9 Steady as she goes b.10 Nothing to port b.11 Nothing to starboard			LO 2. Respond to helm orders (16 hrs) 2.1 Define helm orders 2.2 Explain the manner of giving correct orders/commands 2.3 Demonstrate the manner of giving/responding to correct orders/commands	TVL_MNW111SSHO-Id-g-2
3. External forces affecting ship movement while steering a. Wind b. Currents c. Wave d. Tide 4. Effect of hydrodynamic resistance a. Still and calm water b. Rough seas c. Rate of turn d. Narrow and restricted area			LO 3. Distinguish external forces affecting ship movement while steering (12 hrs) a. Describe the behavior of the ship in still and calm waters and in rough seas b. Explain the rate of turn of a ship during a bend and certain alterations c. Describe the cause and effect of resistance in a narrow channel or in a restricted area d. Explain the squat effect in relation to the depth of water and the vessel speed	TVL_MNW111SSHO-Ih-j-3

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CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCIES	CODE
11. Functions of automatic pilot a. Desired heading without human labor 12. Safe course alterations 13. Resistance reduction to propulsion 14. The use of steering gear power unit			4.4 Describe the functions of automatic pilot 4.5 Explain the limitation of auto pilot	
15. Changeover from automatic to manual steering and vice versa 16. Time of testing the manual steering a. Appropriate areas that demand special attention			4.6 Differentiate automatic steering from manual steering and vice versa	
17. Significance of mandatory testing of ship steering gear a. Test procedures a.1. The main steering gear a.2. The auxiliary steering gear a.3. The remote steering gear control system a.4. The steering position located on the navigating bridge a.5. The emergency			LO 5. Steering – Mandatory Testing and Drills (12 hrs) 5.1 Perform mandatory testing of ship steering gear	TVL_MNW11SSHO-IId-f-5

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CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCIES	CODE
<p>power supply</p> <p>a.6. The rudder angle indicators in relation to the actual position of the rudder</p> <p>a.7. The remote steering gear control system power failure system</p> <p>a.8. The steering gear power unit failure alarms automatic isolating arrangements and other automatic equipment</p> <p>a.9. The full movement of rudder according to required capabilities of steering gear</p> <p>a.10. The visual inspection of the steering gear and its connecting linkage</p>				
<p>18. Importance of mandatory drills for steering gear of ships</p>			<p>5.2 Perform mandatory steering drills</p>	

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Glossary

Automatic pilot	The process of steering the ship without a helmsman and can use specially to an open sea
Changeover	The change from manual steering to auto pilot or vice versa
Command	Giving orders from ship officer
Gyro compass	A type of navigational instrument that gives direction that relies on electricity
Hand steering	The manual steering of a ship duty by a helmsman
Helm orders	Orders given to steer the ship by an officer of the watch, captain, or a pilot
Hydrodynamic resistance	The resistance to the motion of a body by the fluid around it
Magnetic compass	Type of navigational instrument that gives direction relies on magnetic field
Midship	Middle, zero, or no rudder angle
Navigational watch	A watch to ensure the safety of a ship carried out by an officer or qualified personnel
Port side	Left side of the ship
Narrow area	An area of water not as wide as usual
Restricted area	An area with special limited measures
Yaw	The twist of a moving ship around the vertical areas
Swell	Huge wave on the sea
Adrift	Floating ship without anybody on the controls
Rate of Turn	(ROT) indicates the rate a ship is turning
Rudder	Movable control surface for directing or guiding a course
SSHO	Code for "Steer the Ship and Comply with Helm Orders in the English Language"
Starboard side	Right side of the ship
Steer	To maneuver a ship by use of steering wheel
Steering Gear	Equipment provided on ships to turn the ship to left or right
Tide	The rise and fall of sea levels cause by the combined effects of gravitational forces
Wave	Deformations propagate with the upsurge speed of the water
Wind	Bulk movement of air

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Code Book Legend

Sample: TVL_MNW111SSHO-Ia-c-1

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Technical-Vocational-Livelihood Maritime Track Navigational Watch 1	TVL_MNW1 11
	Grade Level	Grade 11	
Uppercase Letter/s	Domain/Content/Component/ Topic	Steer the Ship and Comply with Helm Order in the English Language	SSHO
			-
Roman Numeral <i>*Zero if no specific quarter</i>	Quarter	First Quarter	I
Lowercase Letter/s <i>*Put an en dash (-) in between letters to indicate more than a specific week</i>	Week	Week One to Three	a-c
			-
Arabic Number	Competency	Use magnetic and gyro compass	1

DOMAIN/ COMPONENT	CODE
Steer the Ship and Comply with Helm Orders in the English Language	SSHO

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References

Main Reference:

International Maritime Organization. *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and STCW Code including the 2010 Manila Amendments*. London: International Maritime Organization, 2011.

Other References:

International Chamber of Shipping. *Bridge Procedures Guide*. 5th ed. Marisec Publications, 2016.

Klinkert, J. *Compass-wise: Getting to Know Your Compass*. Brown, Son & Ferguson Ltd, 1976.