

**K to 12 BASIC EDUCATION CURRICULUM  
SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD MARITIME SPECIALIZATION  
NAVIGATIONAL WATCH 3**

**Grade:**12  
**Subject Title:** Navigational Watch 3

**Semester:**1<sup>st</sup> Semester  
**No. of Hours:** 80 hours  
**Prerequisite:** Navigational Watch 2

**Subject Description:**

This maritime course is required by the Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978 Convention, as amended. This is designed to enhance the knowledge, skills, positive attitude, and work values in accordance with workplace standards. It focuses on the following competencies that the Senior High School (SHS) students ought to possess: 1) familiarity with shipboard terms and definitions, 2) use of appropriate internal communication and alarm systems, 3) an understanding of orders and communication with officers of the watch, 4) observance of proper procedures for the relief, maintenance, and handover of a watch, 5) possession of information required to maintain a safe watch, and 6) prevention of pollution of the marine environment.

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCIES	CODE
<b>LESSON 1: CONTRIBUTE TO MONITORING AND CONTROLLING A SAFE WATCH (CMCS) (80 hrs)</b>				
1. Shipboard Terminologies a. Anchor position b. Calling-in-Port (C.I.P.) c. Correction d. Deep Water Route e. Dragging of Anchor f. Draft g. E.T.A h. E.T.D. i. Fairway Speed j. Fouled Anchor k. Fouled Propeller l. GMDSS m. Hampered vessel n. Height o. Icing p. Inshore Traffic Zone Mark q. Off-shore Installation r. Receiving Point s. Reporting Point t. Roundabout u. Routing v. Separation Zone or time w. Ship Nomenclature x. Track	The learners demonstrate an understanding of the basic concepts and underlying theories in contributing to monitoring and controlling a safewatch	The learners shall be able to monitor and control a safewatch as prescribed by STCW Training Regulations	<b>LO1. Discuss shipboard terms and definitions(20 hrs)</b>	<b>TVL_MNW312CMCS-Ia-e-1</b>

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<ul style="list-style-type: none"> <li>y. Traffic</li> <li>z. Traffic lanes</li> <li>aa. Traffic Separation Schemes</li> <li>bb. Two-Way Radio</li> <li>cc. Two-WayRoute</li> <li>dd. Very High Frequency</li> <li>ee. Vessel Crossing</li> <li>ff. Vessel Inward</li> <li>gg. Vessel Leaving</li> <li>hh. Vessel Outward</li> <li>ii. Vessel TurningWay Point</li> </ul>				
<ul style="list-style-type: none"> <li>2. Use of internal Communication such as: <ul style="list-style-type: none"> <li>a. Telephone</li> <li>b. Two-way radio</li> <li>c. Public address</li> <li>d. Talkback</li> </ul> </li> <li>3. Equipment use for external communication such as: <ul style="list-style-type: none"> <li>a. VHF</li> <li>b. Ship whistle</li> <li>c. Aldis lamp</li> </ul> </li> <li>4. Three Major classes of external communication such as: <ul style="list-style-type: none"> <li>a. Sound</li> <li>b. Electronic</li> <li>c. Visual</li> </ul> </li> <li>5. Procedures in Handling VHF Radios <ul style="list-style-type: none"> <li>a. Standard procedures in flaghoisting</li> </ul> </li> </ul>			<p><b>LO2. Use of appropriate internal communication and alarm systems (8 hrs)</b></p> <p>2.1 Discuss essential equipment used for external communications</p> <p>2.1.1 Describe the three major classes of external communication</p>	<b>TVL_MNW312CMCS-If-g-2</b>
<ul style="list-style-type: none"> <li>6. Duties of Ratings and Officers Regarding Safety</li> </ul>			<p><b>LO 3. Comply to the orders and communicate with the officer of the watch on matters relevant to watchkeeping duties (4hrs)</b></p> <p>3.1Explain performance of duties of ratings and officers</p>	<b>TVL_MNW312CMCS-Ih-3</b>

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			regarding watchkeeping duties	
7. Proper procedures in relieving watchkeeping duties 8. Proper procedures in maintaining watchkeeping duties 9. Proper procedures in handingoverwatchkeepingduties			<b>LO 4. Observe proper procedures for the relief, maintenance, and handover of a watch (8 hrs)</b> 4.1 Explain the proper procedures to be observed in relieving, maintaining and handingover of a watch	<b>TVL_MNW312CMCS-Ii-j-4</b>
10. Information needed for a safe watch a. sea passage b. standard procedures beforecommencement of planned voyage c. daily weather forecast d. routing information 11. Basic knowledge of deck watchkeeping: a. Rigging of pilot ladder b. Support duties which berthing and unberthing during towing operation c. Dangerous cargoes d. Stowage procedures and arrangements for bringing stores onboard e. Tools used in deck maintenance			<b>LO5. Discuss required information to maintain a safe watch (20hrs)</b> 5.1 Explain the information needed for a safe watch 5.2 Explain basic knowledge of deck watchkeeping	<b>TVL_MNW312CMC-IIa-e-5</b>
12. Impact of marine pollution on environment 13. Impact of harmful substances on marineresources 14. Sources of marine pollutants from ships: a. operational discharge from			<b>LO6. Explain the basic environmental protection procedures (20hrs)</b> 6.1 Discuss the impact of marine pollution on the environment 6.2 Define harmful substances according to MARPOL	<b>TVL_MNW312CMCS-IIif-j-6</b>

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<ul style="list-style-type: none"> <li>tanker during tank cleaning</li> <li>b. bilge discharged from all vessels</li> <li>c. spills due to maritime accidents, i.e., collision, grounding, explosion, etc.</li> <li>d. spills during loading, discharging, transferring, bunkering</li> <li>e. deliberate discharge of refuse, sewage garbage, hold sweeping, etc.</li> <li>15. Special Areas According to MARPOL 73/78</li> <li>16. Marine pollution as international concern</li> <li>17. Harmful substances according to MARPOL 73/78</li> <li>18. Legislative requirements for protection of the marine environment</li> <li>19. Penalties imposed on ship owners, officers, and crew members for causing pollution</li> <li>20. Prohibition on discharging noxious substances and garbage according to Annexes 1, 2, and 5               <ul style="list-style-type: none"> <li>a. Pollution control measures provided in the annexes of MARPOL 73/78 Convention</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>6.3 Discuss the impact of harmful substances on marine resources</li> <li>6.4 Discuss sources of marine pollutants from ships</li> <li>6.5 State marine pollution as international concern</li> <li>6.6 Discuss compliance with legislative requirements for protection of the marine environment:               <ul style="list-style-type: none"> <li>6.6.1 State that ship crews found deliberately causing pollution maybe fined or imprisoned or both when found guilty</li> <li>6.6.2 State that for Annexes 1, 2, and 5, special areas are created where discharge of oil, noxious substances and garbage are prohibited</li> <li>6.6.3 Explain special areas according to MARPOL 73/78</li> </ul> </li> <li>6.7 Discuss pollution control measures provided in the MARPOL 73/78 Convention for oil, noxious liquid substances, harmful substances in packaged form, sewage, garbage, and air pollution</li> </ul>	

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**Glossary**

<b>Berthing</b>	Type of maneuvering of ship when arriving close to the port
<b>Bilge</b>	Drainage
<b>Bunkering</b>	Refueling or loading of ship fuel
<b>Collision</b>	The action of two moving vehicles, ships, aircraft, or other objects hitting each other
<b>Crew</b>	Members of a ship's staff who are not officers
<b>Deck</b>	A level surface that runs from one side of a ship to the other, forming a floor
<b>Discharge</b>	To emit, give off, or dispose of a gas or liquid, or be emitted or disposed of
<b>ETA</b>	Estimated Time of Arrival
<b>ETD</b>	Estimated Time of Departure
<b>Explosion</b>	The sudden loud release of energy and a rapidly expanding volume of gas that occurs when a bomb detonates or gas explodes
<b>Fairway</b>	A navigable channel or the usual course followed by boats in a river, harbor, or other body of water
<b>Forecast</b>	To predict or work out something that is likely to happen such as the weather conditions for the days ahead.
<b>GMDSS</b>	Global Maritime Distress and Safety System
<b>MARPOL</b>	Maritime pollution
<b>Monitor</b>	To check on something at regular intervals in order to find out how it is progressing or developing
<b>Noxious</b>	Harmful to life or health, especially by being poisonous
<b>Rigging</b>	The ropes, wires, and pulleys that support the masts and control the sails of a boat
<b>Spills</b>	To flow from a container, or allow something to flow from a container, especially accidentally and usually with resulting loss or waste
<b>Stowage</b>	The loading, packing, or storing of something, or a way of doing this
<b>Tanker</b>	A ship, truck, or airplane designed to carry large quantities of liquid or gas
<b>Towing</b>	The act of pulling something along by a rope or chain attached to it
<b>Unberthing</b>	Type of maneuvering of ship when departing from the port
<b>Vessel</b>	A ship or large boat
<b>VHF</b>	Very High Frequency

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**Code Book Legend**

**Sample: TVL\_MNW312CMCS-Ia-e-1**

LEGEND		SAMPLE		DOMAIN/ COMPONENT	CODE
<b>First Entry</b>	Learning Area and Strand/ Subject or Specialization	Technical-Vocational-Livelihood Maritime Navigational Watch 3	<b>TVL_MNW3 12</b>	Contribute to Monitoring and Controlling a Safe Watch	CMCS
	Grade Level	Grade 12			
<b>Uppercase Letter/s</b>	Domain/Content/Component/ Topic	Preparing Pipes, Tools and Equipment for Installation	<b>CMCS</b>		
			-		
<b>Roman Numeral</b> <i>*Zero if no specific quarter</i>	Quarter	First	<b>I</b>		
<b>Lowercase Letter/s</b> <i>*Put an en dash (-) in between letters to indicate more than a specific week</i>	Week	Week One to Five	<b>a-e</b>		
			-		
<b>Arabic Number</b>	Competency	Discuss shipboard terms and definitions	<b>1</b>		

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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*. 5<sup>th</sup>ed. Marisec Publications, 2016.

International Convention for the Prevention of Pollution from Ships, 1973, & International Maritime Organization *MARPOL 73/78: Articales, protocols, annexes, unified interpretations of the international convention for the prevention of pollution from ships, 1973, as modified by the protocol of 1978 relating thereto* (Consolidated ed. 2002.). London: International Maritime Organization, 2002.