

**K TO 12 BASIC EDUCATION CURRICULUM  
SENIOR HIGH SCHOOL TECHNICAL-VOCATIONAL-LIVELIHOOD MARITIME SPECIALIZATION  
SAFETY 1**

**Grade:** 11  
**Subject Title:** Safety 1

**Semester:** 1st Semester  
**No. of Hours:** 80 hours  
**Co-requisite:** Navigational Watch 1

**Subject Description:**

This course covers safety standards as stipulated in Section A-II/4 of the 1978 Standards of Training, Certification, and Watchkeeping Convention, as amended. It aims to acquaint Senior High School (SHS) students on the requirements of safety inherent to the work of Ratings Forming Part of Navigational Watch (RFPNW). Specifically, it provides the knowledge, skills, and attitudes vital to the operation of distress emergency equipment. The competencies covered in this course are 1) application of emergency procedures, 2) operation of distress signal equipment, 3) operation of satellite Emergency Position Indicating Radio Beacon (EPIRB), 4) operation of Search and Rescue Transponder (SART), and 5) determining measures to avoid false distress alerts and actions.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<b>Introduction</b> 1. Observe procedure, specifications, and manuals of instruction  2. Relevance of the course 3. Career opportunities	The learners demonstrate an understanding of the basic concepts and underlying principles in Safety 1	The learners shall be able to independently demonstrate an understanding of the competencies in Safety 1 as prescribed under the 1978 STCW Convention, as amended	1. Interpret manuals 2. Discuss the relevance of the course 3. Explore on opportunities for Safety 1 as a career	
<b>Lesson 1: Explain the ship's nomenclature, dimensions and terminologies for general direction (ESDT) (4 hrs)</b>				
1. Ship's classification a. Hull b. Keel c. Bow d. Stern e. Deck (e.g. compass deck, main deck, boat deck and others) f. Bulkheads g. Accommodation h. Bridge i. Cofferdams j. Cargo hold/tank k. Engine room spaces	The learners demonstrate an understanding of the concepts and underlying principles in the ship's classification, dimensions, and terminologies for general direction	The learners shall be able to identify the ship's classifications, dimensions, and terminologies for general direction	<b>LO1 Describe the different parts of the ship (4 hrs)</b>  1.1 Discuss the ship's classification: 1.1.1 Hull 1.1.2 Keel 1.1.3 Bow 1.1.4 Stern 1.1.5 Deck (e.g., compass deck, main deck, boat deck, and others)  1.1.6 Bulkheads 1.1.7 Accommodation 1.1.8 Bridge 1.1.9 Cofferdams 1.1.10 Cargo hold/tank 1.1.11 Engine room spaces	<b>TVL_MS11ESDT-Ia-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
l. Steering gear room m. Rudder n. Propeller 2. Ship's Dimensions a. Length Overall (LOA) b. Forward Perpendicular c. Aft Perpendicular d. Length Between Perpendicular (LBP) e. Amidship f. Extreme Breadth g. Summer loadline h. Freeboard i. Draft j. Depth 3. Ship's Terminologies for General Direction a. Forward b. Midship c. Aft d. Port e. Starboard f. Abeam g. Port quarter h. Starboard quarter			1.1.12 Steering gear room 1.1.13 Rudder 1.1.14 Propeller  1.2 Discuss the ship's dimensions: 1.2.1 Length Overall (LOA) 1.2.2 Forward Perpendicular 1.2.3 Aft Perpendicular 1.2.4 Length Between Perpendicular (LBP) 1.2.5 Amidship 1.2.6 Extreme Breadth 1.2.7 Summer loadline 1.2.8 Freeboard 1.2.9 Draft 1.2.10 Depth  1.3 Define the following terminologies: 1.3.1 Forward 1.3.2 Midship 1.3.3 Aft 1.3.4 Port 1.3.5 Starboard 1.3.6 Abeam 1.3.7 Port quarter 1.3.8 Starboard quarter	
<b>Lesson 2: APPLY EMERGENCY PROCEDURES (AEP) (20 HRS)</b>				
1. Muster Station Bill a. Content and purpose b. Duties and responsibilities during emergency c. Importance of	The learners demonstrate an understanding of the basic concepts and underlying theories in applying emergency procedures	The learners shall be able to apply emergency procedures as prescribed under the 1978 STCW Convention, as amended	<b>LO 1. Explain a Muster Station Bill (4 hrs)</b> 1.1 Explain the importance of Muster Station Bill 1.2 Discuss the content and purpose of Muster Station Bill 1.3 Identify the duties and responsibilities of each crew member during emergency as	<b>TVL_MS111AEP-Ib-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Muster Station Bill			provided for in the Muster Station Bill	
2. Emergency situations onboard ship 3. Location of alarm system			<b>LO 2. Explain emergency situations and alarm signals (4 hrs)</b> 3.1 Identify types of emergency situations and their corresponding alarm signal 3.2 Discuss emergency situations onboard ship 3.3 Discuss the proper action to be taken during general and emergency alarms 3.4 Identify the location of all alarm systems	<b>TVL_MS111AEP-Ic-2</b>
4. General and emergency alarm signals a. Steering alarm b. Navigation light alarm c. Fire alarms (automatic sensors) d. Navigation equipment alarms e. Abandonship f. Fire emergency g. Man overboard			<b>LO 3. Recognize the general and emergency alarms(4 hrs)</b> 3.1 Identify the different types general and emergency alarms 3.2 Differentiate general from emergency alarms	<b>TVL_MS111AEP-Id-3</b>
			<b>LO 4. Perform emergency procedures (8 hrs)</b>	<b>TVL_MS111AEP-Ie-f-4</b>
<b>Lesson 3: OPERATE DISTRESS SIGNAL EQUIPMENT (ODSE) (16 hrs)</b>				
1. Safety of Life at Sea (SOLAS) 74 Chapter V Regulations 35	The learners demonstrate an understanding of the basic concepts and underlying principles in operating distress signals	The learners shall be able to operate distress signals as prescribed under the 1978 STCW Convention, as amended	<b>LO 1. State the provision in the SOLAS Regulation pertaining to the misuse of distress signal (2 hrs)</b>	<b>TVL_MS111ODSE-Ig-1</b>
2. Distress Signals a. Pyrotechnic signals 1. Red rocket parachute flares 2. Hand-held flare b. Other Types of			<b>LO 2. Explain the various types of distress signals (2 hrs)</b> 2.1 Identify the types of pyrotechnic distress signals 2.2 Describe the characteristics of every pyrotechnic distress signals 2.3. Identify other types of distress signals	<b>TVL_MS111ODSE-Ig-2</b>

**K TO 12 BASIC EDUCATION CURRICULUM**  
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**SAFETY 1**

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Distress Signals			<b>LO 3. Operate pyrotechnic distress signals (6 hrs)</b>	<b>TVL_MS111ODSE-Ih-i-3</b>
			<b>LO 4. Perform other types of distress signaling system (6 hrs)</b>	<b>TVL_MS111ODSE-Ii-j-4</b>
<b>Lesson 4: OPERATE SATELLITE EMERGENCY POSITION INDICATING RADIO BEACON (EPIRB) (16 hrs)</b>				
1. Emergency Position Indicating Radio Beacon (EPIRB) and its function 2. Parts of EPIRB 3. Distress Message Information	The learners demonstrate an understanding of the basic concepts and underlying principles in operating satellite Emergency Position Indicating Radio Beacon (EPIRB)	The learners shall be able to operate satellite Emergency Position Indicating Radio Beacon (EPIRB) as prescribed under the 1978 STCW Convention, as amended	<b>LO1.Explain EPIRB and its function (4 hrs)</b> 1.1 Define EPIRB and its function 1.2 Identify parts of EPIRB 1.3 State the information received from EPIRB	<b>TVL_MS111EPIRB-IIa-1</b>
4. Stations involved in Distress Message Transmission			<b>LO 2. Discuss distress message transmission(4 hrs)</b> 2.1 Identify the stations involved in distress message transmission	<b>TVL_MS111EPIRB-IIb-2</b>
5. Procedures in activation and testing of EPIRB			<b>LO 3.Activate EPIRB (8 hrs)</b> 3.1 Demonstrate procedures in activating EPIRB 3.2 Demonstrate testing of EPIRB	<b>TVL_MS111EPIRB-IIc-d-3</b>
<b>Lesson 5: OPERATE SEARCH AND RESCUE TRANSPONDER (SART) (12 hrs)</b>				
1. Search and Rescue Transponder (SART) and its function 2. Parts of SART	The learners demonstrate an understanding of the basic concepts and underlying principles in operating Search and Rescue Transponder (SART)	The learners shall be able to operate Search and Rescue Transponder (SART) as prescribed under the 1978 STCW Convention, as amended	<b>LO1. Explain SART, its functions (4 hrs)</b> 1.1 Define SART and its functions 1.2 Identify parts of SART	<b>TVL_MS111SART-IIe-1</b>
3. Procedure in manual activation and testing of SART			<b>LO 2. Activate SART (8 hrs)</b> 2.1 Demonstrate manual activation of SART 2.2 Demonstrate testing of SART	<b>TVL_MS111SART-IIf-g-2</b>
<b>Lesson 6: DETERMINE MEASURES TO BE TAKEN IN THE AVOIDANCE OF FALSE DISTRESS ALERTS AND ACTIONS IN THE EVENT OF ACCIDENTAL ACTIVATION (FDA) (12 hrs)</b>				
1. False alerts 2. Causes of accidental activation of distress	The learners demonstrate an understanding of the	The learners shall be able to determine measures to avoid false distress alerts and	<b>LO 1. Explain accidental activation of distress signal equipment (4 hrs)</b> 1.1 Define false alerts	<b>TVL_MS111FDA-IIh-1</b>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<p>signal equipment</p> <p>3. Preventive measures to avoid false distress alerts</p>	<p>basic concepts and underlying theories in determining measures to be taken in the avoidance of false distress alerts and actions in the event of accidental activation</p>	<p>actions in the event of accidental activation as prescribed under the 1978 STCW Convention, as amended</p>	<p>1.2 Identify causes of accidental activation of distress signal equipment</p> <p>1.3 Discuss preventive measures to avoid false distress alerts</p>	
<p>4. Actions to be taken during false distress alerts</p> <p>5. Operational procedure in rectifying false alerts</p>			<p><b>LO 2. Demonstrate actions to be taken in the event of accidental activation (8 hrs)</b></p> <p>2.1 Explain the importance of informing the master or the officer on watch in the event of accidental activation of distress signal equipment</p> <p>2.2 Demonstrate procedure on how to rectify false distress alert</p>	<p><b>TVL_MS111FDA-III-j-2</b></p>

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SAFETY 1**

**Glossary**

<b>Abeam</b>	The bearing of an object 90 degrees from ahead (in a line with the middle of the ship)
<b>Aft</b>	At, near, or toward the stern (back end)
<b>Amidships</b>	In or toward the middle of a ship in regard to length or breadth (center of)
<b>Bow</b>	The forward part of a vessel's sides (front)
<b>Bridge</b>	The raised platform extending athwart ships, the part of the ship from which the ship is steered and navigated
<b>Bulkhead</b>	Transverse or longitudinal partitions separating portions of the ship ("walls" in a ship)
<b>Cofferdam</b>	The space between two bulkheads set close together, especially between fuel tanks (two walls separated to use for drainage or safety)
<b>Distress signal</b>	A flag display or a sound, light, or radio signal calling for assistance
<b>Freeboard</b>	The distance from the surface of the water to the main deck or gunwale
<b>Hull down</b>	Said of a vessel when, due to its distance on the horizon, only the masts are visible
<b>Keel</b>	The timber or bar forming the backbone of the vessel and running from the stem to the stempost at the bottom of the ship
<b>Port</b>	The left side of the ship
<b>Rudder post</b>	That part of a rudder by which it is pivoted to the sternpost
<b>Starboard</b>	The right side of the ship
<b>Steering wheel</b>	The wheel operating the steering gear and by which the vessel is steered
<b>Stern</b>	The after-part of the vessel (back of)

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**Code Book Legend**

**Sample: TVL\_MS11ESDT-Ia-1**

LEGEND		SAMPLE	
<b>First Entry</b>	Learning Area and Strand/ Subject or Specialization	Technical Vocational Livelihood Maritime Safety 1	<b>TVL_MS11</b>
	Grade Level	12	
<b>Uppercase Letter/s</b>	Domain/Content/ Component/ Topic	Explain the Ship's Nomenclature, Dimensions and Terminologies for General Direction	<b>ESDT</b>
			<b>-</b>
<b>Roman Numeral</b> <i>*Zero if no specific quarter</i>	Quarter	First Quarter	<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	<b>a</b>
			<b>-</b>
<b>Arabic Number</b>	Competency	Describe the different parts of the ship	<b>1</b>

DOMAIN/ COMPONENT	CODE
Explain the Ship's Nomenclature, Dimensions and Terminologies for General Direction	ESDT
Apply Emergency Procedures	AEP
Operate Distress Signal Equipment	ODSE
Operate Satellite Emergency Position Indicating Radio Beacon	EPIRB
Operate Search And Rescue Transponder	SART
Determine Measures to be Taken in the Avoidance of False Distress Alerts and Actions in the Event of Accidental Activation	FDA

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**SAFETY 1**

**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 Maritime Organization. *International Convention for the Safety of Life at Sea, 1974, as amended by the resolutions of the 1997 SOLAS Conference relating to bulk carrier safety*. London: International Maritime Organization, 1999.

International Maritime Organization. *IAMSAR Manual: International Aeronautical and Maritime Search And Rescue Manual*. Vol. III. 2013 ed. London: International Maritime Organization.