



Republic of the Philippines  
OFFICE OF THE PRESIDENT  
**COMMISSION ON HIGHER EDUCATION**



DEPARTMENT OF TRANSPORTATION  
**MARITIME INDUSTRY AUTHORITY**

**Evaluation Instrument - Facilities and Equipment**  
***Bachelor of Science in Marine Transportation (BSMT)***

**Name of Applicant HEI:**

**Address:**

**Academic Year Programs to be offered:**

**Evaluated by:**

**Date of Evaluation**

Quantity Required	Requirements	Self- Assessment (To be accomplished by Applicant HEI)		Documentary Review (To be accomplished by Designated EIT)		Remarks	Inspection (To be accomplished by Designated EIT)		Remarks
		Complied	Not Complied	Complied	Not Complied		Complied	Not Complied	
<b>1. CLASSROOM</b>									
	The standard classroom shall be a minimum of <b>48 square meters, no side of which less than 6 meters</b> for a class of <b>40 students</b> shall be. Classrooms must be well-lighted and well-ventilated. It should contain the following:  1.1 Tables and Chairs or Armed chairs  1.2 Whiteboards/Chalkboards								



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1.3 Instructor's Table or Podium									
1.4 Multimedia Equipment									
<b>NAVIGATION</b>									
<b>2. CHART PLOTTING ROOM</b> The ratio of the minimum requirements herein listed shall be proportionate to the total number of maritime students enrolled for the particular course under the following:									
20 Chart tables	2.1 Chart tables ( <i>Dimension: at least 1.0m L x 0.7m W</i> )  1 table is to 2 students (1:2)								
1 Chart per table	2.2 Navigational charts <ul style="list-style-type: none"> <li>Harbor charts – not necessarily of the same chart number but should be adequate to create one passage plan (<i>scale: larger than 1:50,000</i>).</li> </ul>								
1 Chart per table	<ul style="list-style-type: none"> <li>Coastal charts – not necessarily of the same chart no. but should be adequate to create one passage plan (<i>scale: 1:50,000 to 1:150,000</i>).</li> </ul>								



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1 Chart per table	<ul style="list-style-type: none"> <li>General charts – not necessarily of the same chart no. but should be adequate to create one passage plan (<i>scale: from 1:150,000 to 1:600,000</i>).</li> </ul>								
1 Chart per table	<ul style="list-style-type: none"> <li>Sailing charts – not necessarily of the same chart no but should be adequate to create one passage plan (<i>scale: smaller than 1:600,000</i>).</li> </ul>								
1 set	<ul style="list-style-type: none"> <li>Chart projections: <ul style="list-style-type: none"> <li>Gnomonic</li> <li>Mercator plotting sheet from equator to 78 degrees latitude</li> </ul> </li> </ul>								
1 set	<ul style="list-style-type: none"> <li>Routeing Chart (January to December).</li> </ul>								
<b>3. Publications (photocopy acceptable)</b>									
3 books	<ul style="list-style-type: none"> <li>Pilot Books / Sailing Directions for different areas (<i>at least within the last 5 years edition or latest edition</i>).</li> </ul>								
6 sets	<ul style="list-style-type: none"> <li>Weekly Notice to Mariners (<i>at least within the last 5 years edition or</i></li> </ul>								





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	<i>latest edition).</i>								
1 pc	▪ Nautical Tables (e.g. <i>HO publications</i> ) or <b>Useful tables</b> .								
1 pc	▪ Nautical Almanac ( <i>at least within the last 5 years edition or latest edition</i> ).								
1 pc	▪ Tide Tables ( <i>at least within the last 5 years edition or latest edition</i> ).								
1 set	▪ Sight Reduction Tables								
1 pc	▪ International Code of Signals ( <i>at least within the last 5 years edition or latest edition</i> )								
1 pc	▪ Symbols and Abbreviations used on Charts ( <i>at least within the last 5 years edition or latest edition</i> )								
1 pc	▪ Collision Regulations handbook ( <i>latest edition with latest Supplement</i> )								
1 pc	▪ International Aeronautical and Maritime Search and Rescue (IAMSAR) manual ( <i>at least within the last 5 years edition or latest edition</i> ).								
1 pc each	Drawing/Illustration/Poster of Maritime Buoyage System (IALA - A and B).								



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20 pcs	Radar Maneuvering Board								
<b>4. LIST OF NAVIGATIONAL EQUIPMENT</b>									
<ul style="list-style-type: none"> <li>• Shall be fully operational and functional.</li> <li>• May be live, stand alone or integrated to a bridge simulator.</li> <li>• Some may be found in the ship's bridge simulator room and/or in a separate dedicated room.</li> </ul>									
1 unit	Global Positioning System (GPS)								
1 set	Gyro compass with at least one repeater								
1 pc	Pelorous / Azimuth Circle								
1 unit	Echo sounder								
1 unit	RPM/Speed Indicator								
1 unit	Steering equipment with automatic pilot and Non-follow Unit (NFU)								
1 unit	Bridge engine telegraph								
2 pairs	Hygrometer and wet bulb thermometer). (dry								
1 unit	Anemometer (marine type)								
1 unit	Aneroid Barometer (marine type)								



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		Complied	Not Complied	Complied	Not Complied		Complied	Not Complied	
1 unit	Weather Facsimile receiver or any equipment capable of giving weather forecast/report.								
1 unit	Marine chronometer								
2 units	Marine Sextant								
1 unit	Magnetic compass								
1 unit	Signaling lamp (Aldis lamp)								
1 unit	Clinometer								
1 unit	Automatic Identification System (AIS)								
1 set each	Appropriate equipment for giving light and sound signals (e.g. bell, gong, ship's whistle, Morse light and/or sound)								
Equipment for display signals (lights and shapes): <i>*Equipment should be displayed on replica of a vessel with main mast.*</i>									
2 pcs	• Anchor ball								
2 pcs	• Diamond shape								
2 pcs	• Cylindrical shape								
1 set	• Anchor light								
1 set	• Not under command light								
1 set	• Vessel restricted in her ability to								





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	manoeuvre (RAM).								
<b>5. SHIP'S BRIDGE SIMULATOR ROOM</b>									
<b>5.1 GENERAL REQUIREMENT</b>									
<p>Instruction and assessment in RADAR-ARPA and ECDIS with Automatic Identification System (AIS) shall be conducted with the use of Bridge Simulator Equipment.</p> <ul style="list-style-type: none"> <li>The design, features and capabilities of the simulators used shall be in compliance with Regulation I/12 and guidelines under Section A-I/12 and B-I/12 of the 1978 STCW as amended.</li> <li>The installation must be capable of covering all the competences and KUPs as stated in the Table of Competence A-II/1 of the STCW Code related to RADAR-ARPA and/or ECDIS.</li> <li>The number of student stations shall be adequate in order for each student to undergo the minimum required exposure to the equipment.</li> <li>There must be an INSTRUCTOR STATION where exercises are generated and are able to monitor each student station during an exercise or assessment.</li> <li>All other simulators which can be used by the HEIs for other competences shall follow the same guidelines as in item number.</li> </ul>									



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	RADAR/ARPA and ECDIS Simulator may be located in dedicated simulator room or they may be integrated to a bridge simulator.  The ratio of the minimum requirement for simulator equipment to student: 1:4								
<b>5.2 OTHER REQUIREMENTS</b>									
1 set for each workstation	<ul style="list-style-type: none"> <li>• Navigational charts corresponding to particular coast or harbor must be available in the simulator room:</li> <li>• Parallel rulers / Navigational triangles</li> <li>• Compass divider</li> </ul>								
<b>MARCOM ROOM – GMDSS / COMMUNICATION SIMULATOR</b>									
As per performance standards	GMDSS simulator with ARPA/RADAR capable of simulating the following: DSC, NAVTEX, SAR, EPIRB, Satellite communication for a particular GMDSS area. <ul style="list-style-type: none"> <li>• Must be in dedicated or separated room.</li> <li>• Instructor/Student and GMDSS</li> </ul>								





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adopted by the IMO	<p>station ratio.</p> <ul style="list-style-type: none"> <li>GMDSS operation able to meet the training objectives to include the determination of limitations and possible errors of the equipment.</li> <li>Able to provide controlled operating environment capable of producing various conditions such as, emergency, hazardous or unusual situations relevant to the training objectives.</li> <li>Provide an interface through which a trainee can interact with the equipment, and the simulated environment.</li> <li>Allow an instructor to control and monitor exercises.</li> </ul>								
1 set	Alphabet Flags (A to Z)								
1 set	Substitute Flags								
1 set	Numeral Pennants								
2 pairs	Semaphore Flags								



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1 pair	Morse Sound Signaling Apparatus								
1 set each	International Radio Laws (ITU) Part I and Part II ( <i>at least within the last 5 years edition</i> )								
Vol 1-6	List of Radio Signals ( <i>at least within the last 5 years edition</i> ).								
1 pc	INMARSAT Maritime Communication Handbook ( <i>at least within the last 5 years edition or latest edition</i> ).								
<b>The ratio of the minimum requirement for GMDSS simulator equipment: 1:4</b>									
<b>SEAMANSHIP ROOM</b>									
6 pcs	Work benches								
12 pcs	Vises attached to work benches for splicing								
1 pc each	<b>Models/Drawings (Posters)/Video of the following:</b>  1. Derrick (single or married fall system) <ul style="list-style-type: none"> <li>▪ Deck crane</li> <li>▪ Anchor windlass</li> <li>▪ Mooring winch/capstan</li> <li>▪ Hatch cover (any type, <b>complete parts name</b>)</li> <li>▪ Head and heel blocks</li> <li>▪ Types of vessels</li> <li>▪ Various hatch cover</li> </ul>								



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1 pc each	2. Samples of Cargo Plans of at least 4 types of ships.								
2 pcs	3. Bollard								
2 pcs	4. Bitts								
2 pcs	5. Cleats								
1 set	6. Anchor with chain (with markings)								
10 pcs	7. Chipping hammer								
10 pcs	8. Hand scraper, angular								
10 pcs	9. Long handled scraper								
10 pcs	10. Wire brush								
10 pcs	11. Fid								
10 pcs	12. Marlinspike (6-10 inches)								





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100 m	13. Rope, at least 12mm in diameter (nylon or Manila rope)								
30 m	14. Wire rope for splicing, at least 8mm in diameter								
10 pcs	15. Seaman's knife								
1 set	16. Sewing palms and kit for canvass works <ul style="list-style-type: none"> <li>▪ Sewing needle</li> <li>▪ Eyelet</li> <li>▪ Canvass or tarpaulin</li> <li>▪ Thimble (for sewing)</li> <li>▪ Punch and Dye</li> </ul>								
1 pc	17. Serving mallet								
1 pc	18. Pilot ladder								
1 pc	19. Jacob's ladder								
1 pc	20. Wire cutter								
1 pc	21. Painting stage with Rigging (shall be displayed on demonstration area).								
1 pc	22. Bosun's chair (shall be displayed on								



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	demonstration area).								
1 pc	23. Safety net (shall be displayed on demonstration area).								
1 pc	24. Cargo Net								
1 pc	25. Gun Tackle								
1 pc	26. Two-fold purchase rigged (preferably on wooden blocks).								
1 pc	27. Three-fold purchase rigged (preferably on wooden blocks).								
1 pc	28. Metal cargo swivel block								
1 pc	29. Cargo hook SWL at least 5 tons								
1 pc	30. Chain Block (at least 1 ton)								
1 pc	31. Snatch block, size at least 160mm								
25 Each (complete set)	32. Personal Protective Equipment (PPE) a. Safety helmet (hard hat) b. Safety goggle								



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	c. Working gloves (cotton/leather) d. Cover-all e. Safety Shoes								
3 pcs	33. Safety Belt								
3 pcs	34. Safety Harness								
6 pcs	35. Thimble (for cable wire)								
6 pcs	36. Shackle (various sizes)								
6 pcs	37. Turnbuckle (various sizes)								
1 each	38. Ships Certificates e.g. SOLAS, Load Line, Ship Registry etc. (At least 5 certificates).								
1 pc	39. Ship's Organizational Chart								
1 pc	40. Tabular Chart for the strength of ropes and wire ropes.								
1 pc	41. Various Types of Blocks (5 types)								





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1 pc	42. IMDG Code: Labels, marks and signs (SN: IMO-220E)								
1 each	43. Drawings of various tanker ships showing tanks, pipes and pumping arrangement ( <b>oil, chemical &amp; gas</b> ).								
1 pc	44. Drawings/illustration/actual equipment of measuring device and oxygen device.								
1 each	45. Copy of Actual Ship Capacity Plan (Container, Bulk, Tanker and General cargo).								
1 pc	46. Trim and Stability Table								
1 pc	47. International Load line Chart (Seasonal Chart).								
1 pc each workstation	48. Computer based software on Trim and Stability (may be found in a separate room).								
1 pc	49. Diagram of a Ship's Manoeuvring Characteristics.								



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		Complied	Not Complied	Complied	Not Complied		Complied	Not Complied	
1 set	50. Posters/pictures of River bends, Locks, Port Facilities, Navigable canals, rivers, etc.								
1 set	51. Posters/pictures of various types of propellers and bow-thruster.								

Summary of Courses that may need Bridge Simulator	
Courses	Simulator
Navigation 1, 3,7	Any of categories 1, 2 and 4
Navigation 5, 6	Any of categories 1, 2,3 and 4
D-Watch 2 - Deck Watchkeeping	Any of categories 1, 2 and 4
Seam 5 – Ship Handling and Manoeuvring	Any of categories 1, 2, 3 and 4

**NOTE:** The HEI must submit the schedule of classes on each courses to ensure that the minimum carrying capacity of facilities and equipment is being followed to avoid overlapping of schedule. If this is so HEI must provide another set of aforementioned requirement.

**Standard Classification of Ship's Bridge Simulator**

Category 1	Full Mission Simulator	A full mission simulator capable of simulating a total shipboard bridge operation situation including the capability for advanced manoeuvring in restricted areas.
Category 2	Multitask Simulator	A multi-task simulator capable of simulating a total shipboard bridge operation situation but excluding the capability for advanced manoeuvring in restricted waterways.
Category 3	Limited Task Simulator	A limited task simulator capable of simulating a shipboard bridge operation situation for limited (instrumentation or blind) navigation and collision avoidance.
Category 4	Special Task Simulator	A special task simulator capable of simulating operation and/or maintenance of particular bridge instruments and/or defined navigation/ manoeuvring scenarios.



**Competences addressed by the Ship's Bridge Simulator**

STCW Reference	Competence	Category			
		1	2	3	4
Table A-II/1.1	Plan and conduct a passage and determine position	✓	✓		✓
Table A-II/1.2	Maintain safe navigational watch	✓	✓		✓
Table A-II/1.3	Use of RADAR and ARPA to maintain safety of navigation	✓	✓	✓	✓
Table A-II/1.4	Use of ECDIS to maintain the safety of navigation	✓	✓	✓	✓
Table A-II/1.5	Respond to emergencies	✓	✓	✓	✓
Table A-II/1.6	Respond to distress signal at sea	✓	✓	✓	✓
Table A-II/1.8	Transmit and receive information by visual signaling	✓	✓	✓	✓
Table A-II/1.9	Manoeuvre the ship	✓	✓	✓	✓

**Self-Assessment:**

\_\_\_\_\_  
Name and Signature

\_\_\_\_\_  
Date

**Recommendation on Documentary Review:**

☐

Approval

☐

Disapproval

☐

Further Actions

**Prepared by:**

\_\_\_\_\_  
Member of the EIT

Date: \_\_\_\_\_

\_\_\_\_\_  
Member of the EIT

Date: \_\_\_\_\_

\_\_\_\_\_  
Member of the EIT

Date: \_\_\_\_\_

\_\_\_\_\_  
Member of the EIT

Date: \_\_\_\_\_

\_\_\_\_\_  
Lead Evaluator of the EIT

Date: \_\_\_\_\_

**Reviewed by:**

\_\_\_\_\_  
Lead Evaluator  
(Not Member of the Designated EIT)

Date: \_\_\_\_\_

**Approved by:**

\_\_\_\_\_  
Executive Director

Date: \_\_\_\_\_

