

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



CHED MEMORANDUM ORDER (CMO)

No. 14

Series of 2013

SUBJECT: *POLICIES, STANDARDS AND GUIDELINES (PSG) FOR THE BACHELOR OF SCIENCE IN MARINE ENGINEERING PROGRAM*

In accordance with the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "Higher Education Act of 1994", the 2010 Manila Amendments to the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (1978 STCW Convention), by virtue of the 412th Commission *en banc* Resolution No. 362-2013 dated 14 May 2013, and for the purpose of rationalizing maritime education in the country, with the end in view of keeping it at par and responsive to the latest international trends and requirements of the industry, this set of policies, standards and guidelines for the education and training program of Marine Engineer Officers pursuant to Regulation III/1, Chapter III of the 1978 STCW Convention as amended, are hereby adopted and promulgated by the Commission, thus:

**ARTICLE I
INTRODUCTION**

Section 1. Rationale and Background

The 2005 revised Policies, Standards and Guidelines (PSGs) governing the operation of maritime programs in the country emerged as a result of careful review and consolidation of the three (3) PSGs implemented by the Commission on Higher Education (CHED) from 1997 to 1999. These are CMO 51, s. 1997, CMO 38, s. 1998 and CMO 10, s. 1999. Said revision was undertaken by qualified technical experts from the academe, industry, professional organizations, government concerned agencies and other stakeholders, making sure that the national standards and STCW requirements and such other international laws and conventions are incorporated.

However, the 2010 amendments (the Manila Amendments) to the STCW 1978 Convention and Code were adopted by a conference of parties to the 1978 STCW convention, held in Manila, Philippines from 21 to 25 June 2010. The Manila

amendments updated the standards of competence required of marine engine officers particularly, in light of emerging technologies, new training and certification requirements and methodologies, and medical fitness standards among others, and ultimately for shipping companies to have a safe, secure and efficient shipping operation on cleaner oceans.

Thus, in view of the foregoing and in furtherance of the ongoing paradigm shift to learning competency-based standards in Philippine higher education, the Commission finds it imperative to develop an undergraduate degree program in marine engineering which shall be attuned to national academic standards, industry needs and international maritime standards.

ARTICLE II PROGRAM OPERATION AND AUTHORIZATION

Section 2. Authority to Operate

The Bachelor of Science in Marine Engineering program shall only be operated by a higher education institution (HEI), whether public or private, after compliance with the pertinent CHED and STCW requirements as stipulated under this PSG and after the proper authority pursuant to Sections 54, 56 and 57 of the Manual of Regulations for Private Higher Education of 2008 (MORPHE) has been granted by the CHED.

ARTICLE III PROGRAM SPECIFICATIONS

Section 3. Program Title and Degree Name

The program title of the approved education and training for Marine Engineer Officers shall be **Bachelor of Science in Marine Engineering (BSMarE)**. Consequently, a student who completed such approved education and training and who has complied with all the requirements for graduation thereof shall be conferred with the degree of **Bachelor of Science in Marine Engineering (BSMarE)**.

Section 4. Program Description

Bachelor of Science in Marine Engineering is a higher education degree program that deals with the study of marine propulsion system, its operation and maintenance as well as controlling the operation of the ship and care for persons on board at the operational level of marine engineering.

4.1 Program Educational Objectives

The BSMarE program aims to:



- a) Provide and equip students with knowledge, understanding, proficiencies, skills, competencies, attitudes and values to qualify them for:
- professional licensure examination; and,
 - assessment and certification as officer in charge of an engineering watch in a manned engine-room or designated duty engineer officer in a periodically unmanned engine-room on seagoing ships powered by main propulsion machinery of 750 kW propulsion power or more;
- b) Produce graduates that are:
- competent to carry out safely the watchkeeping duties of an officer in charge of an engineering watch in a manned engine-room or designated duty engineer officer in a periodically unmanned engine-room, both at sea and in port;
 - fully conversant with the basic principles to be observed in keeping an engineering watch as per STCW Regulation VIII/2, Chapter VIII of the STCW Code; and
 - qualified to pursue a professional career or advanced studies in any maritime field of specialization.

4.2 Program outcomes

The graduates of the BSMarE program shall have acquired the knowledge and competence necessary to perform the following:

- a) Demonstrate the ability to undertake at the operational level the tasks, duties and responsibilities listed in Column 1 of Table A-III/1 under Section A-III/1 of the STCW Code;
- b) Carry out watchkeeping duties in accordance with Section A-VIII/2, Part 4-2 of the STCW Code;
- c) View the contemporary world from both Philippine and global perspectives and reflect critically on maritime issues guided by ethical standards;
- d) Deal with problems methodically and scientifically; and
- e) Contribute personally and meaningfully to the country's development



4.3 Specific Professions/Careers/Occupations or Trades

A graduate of the BSMarE Program is prepared for careers in:

- a) Maritime Industry
 - 1. Ship building
 - 2. Ship operations
 - 3. Ship management
 - 4. Dry docking operations
 - 5. Port operations
- b) Maritime Education and Training
- c) Philippine Navy
- d) Philippine Coast Guard
- e) Shore based power and industrial plants operation and maintenance

4.4 Allied Programs

The following shall be considered as allied to the BSMarE program for purposes of determining the qualifications of administrators and faculty:

- a) Mechanical Engineering (Math & Physics courses)
- b) Electrical Engineering (Math & Physics courses)
- c) Chemical Engineering (Chemistry course)
- d) Electronics and Communication Engineering
- e) Industrial Engineering
- f) Instrumentation and Control Engineering
- g) Naval Architecture and Marine Engineering
- h) Marine Transportation
- i) Law
- j) Medicine and Nursing (Emergency First Aid and Medical First Aid)

ARTICLE IV COMPETENCY STANDARDS, ASSESSMENT AND CERTIFICATION

Section 5. Competency

Every student who has satisfactorily completed the BSMarE program shall have acquired the standard of competence specified under Section A-III/1; Section A-VI/1, paragraph 2; Section A-VI/2, paragraphs 1 to 4; Section A-VI/3, paragraphs 1 to 3; Section A-VI/4, paragraphs 1 to 3 of the 1978 STCW Convention, as amended.

Section 6. Assessment of Competence and Certification

The assessment of competence of BSMarE students who has satisfactorily completed the BSMarE program and the relevant safety courses as part of the curriculum shall be in accordance with the methods of demonstrating competence as



provided for under Section A-III/1; Section A-VI/1, paragraph 2; Section A-VI/2, paragraphs 1 to 4; Section A-VI/3, paragraphs 1 to 3; Section A-VI/4, paragraphs 1 to 3 of the 1978 STCW Convention, as amended and the pertinent rules and regulations promulgated by the Philippines' STCW Administration. The corresponding Certificate shall be issued by the STCW Administration to students who passed the assessment.

ARTICLE V CURRICULUM

Section 7. Curriculum description.

The BSMarE program has a minimum total of 182 credit units. The program is comprised of the general education component following the CHED general education curriculum – B (GEC B) under CMO No. 4, series of 1997, special professional courses, shipboard training (On-Board Training) and Physical Education (PE) and the National Service Training Program (NSTP). This set of courses prepares the students as marine engineer officers.

The sequencing of the courses according to pre-requisites and co-requisites must be observed. The shipboard training per CMO No. 2 series of 2012 is in line with the requirements of the 1978 STCW Convention as amended, in which the students/cadets shall be engaged in the actual operation of the ship and the performance of their tasks. A total of 40 units shall be credited to students who satisfactorily fulfilled the requirements of the shipboard training.

The General Education courses shall be revised once a new General Education curriculum is issued by CHED. An amendment to this CMO shall be issued by CHED at such time to show the revised curriculum.

The instructional approach for this program shall be outcomes-based to prepare the students to a life at sea and effectively carry out the tasks, duties and responsibilities of an Officer-In-Charge of an Engine Watch.

Section 8. Curriculum outline.

8.1 The one hundred eighty two (182) minimum units comprising the Marine Engineering program curriculum shall be distributed as follows:

Courses	No. of Courses	Equivalent Units per Courses (lec-lab)	Total Units
GENERAL EDUCATION COURSES	17	3	51
Language and Humanities	6	3	18



Courses	No. of Courses	Equivalent Units per Courses (lec-lab)	Total Units
English 1 – Study and Thinking Skills in English		3 (3-0)	
English 2 –Writing in the Discipline		3 (3-0)	
English 3 – Speech Communication with IMO Standard Marine Communication Phrases		3 (3-0)	
English 4 – Research and Thesis Writing		3 (3-0)	
Humanities 1 – World Culture and Geography		3 (3-0)	
Humanities 2 - Ethics		3 (3-0)	
Mathematics and Natural Sciences	6	3	18
Math 1 – College Algebra		3(3-0)	
Math 2 – Plane Trigonometry and Solid Mensuration		3(3-0)	
Math 3 – Calculus and Analytic Geometry		3(3-0)	
Nat. Sci. 1 – General Physics		3 (2-3)	
Nat. Sci. 2 – Applied Physics		3 (2-3)	
Nat. Sci. 3 – General Chemistry		3 (2-3)	
Information Technology	1	3	3
Computer Applications and Networking		3(2-3)	
Social Sciences	3	3	9
General Psychology with Alcohol and Drug Prevention		3(3-0)	
Politics and Governance with Philippine Constitution		3 (3-0)	
Society and Culture with Family Planning, STD, HIV & AIDS Prevention		3 (3-0)	
Mandated Courses	1	3	3
The Life, Works and Writings of Jose Rizal		3(3-0)	
SPECIAL PROFESSIONAL COURSES	28		77
Engineering Materials		3 (3-0)	
Marine Engineering Drawing		3 (2-3)	
Thermodynamics		3 (3-0)	
Safety 1 (Basic Training)		2 (1-3)	
Safety 2 (Advanced Fire Fighting, Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats, Medical First Aid)		2 (1-3)	



Courses	No. of Courses	Equivalent Units per Courses (lec-lab)	Total Units
Personnel Management and Training		3 (3-0)	
Maritime Law		3 (3-0)	
Protection of the Marine Environment		3 (3-0)	
Machine Shop 1		3 (2-3)	
Machine Shop 2		3 (1-6)	
Machine Shop 3		3 (1-6)	
Electro Technology 1		3 (2-3)	
Electro Technology 2		4 (3-3)	
Electro Technology 3		3 (2-3)	
Naval Arch 1 (to include Seamanship)		3 (3-0)	
Tribology		3 (2-3)	
Marine Propulsion System 1 (Steam)		3 (2-3)	
Marine Propulsion System 2 (Diesel & Electric)		3 (2-3)	
Auxiliary Machinery 1		3 (2-3)	
Auxiliary Machinery 2		3 (2-3)	
Fluid Power		3 (2-3)	
Marine Ref, AC and ventilation system		2 (1-3)	
E-Watch with Engine Room Simulator		3 (2-3)	
Marine Automation 1		3 (2-3)	
Marine Automation 2		3 (2-3)	
Security Awareness		2 (2-0)	
ERM (Engine Resource Management)		2 (1-3)	
SHIPBOARD TRAINING			40
PHYSICAL EDUCATION COURSES	4	2	8
P. E. 1 – Basic Swimming			
P. E. 2 – Advanced Swimming			
P. E. 3 – Team Sports			
P. E. 4 – Dual Sports			
NATIONAL SERVICE TRAINING PROGRAM (NSTP)	2	3	6
SUMMARY OF UNITS			
General Education Courses			51
Special Professional Courses			77
Shipboard Training			40
P.E			8

Courses	No. of Courses	Equivalent Units per Courses (lec-lab)	Total Units
NSTP			6
TOTAL NO. OF UNITS			182

8.2 Pre-requisites and Co-requisites

Courses	Pre-requisite
Aux Mach 1	
Aux Mach 2 (Deck Mach, St Gear, and Purif)	Aux Mach 1
Auto1	Electro3
Auto2	Auto1
Mashop 1	
Mashop 2	
Mashop 3	
MPS1 (Steam)	Thermo, Aux Mach1 (Co-req.)
MPS2 (Diesel & Electric)	MPS1
Electro1	
Electro2	Electro1
Electro3	Electro2
Safety1 (Basic Training)	
Safety2 (Advanced Fire Fighting, Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats, Medical First Aid)	Safety1
Naval Arch 1 (to include Seamanship)	
Draw	
E Mat	Nat. Sci. 1
Protection of the Marine Environment	
Nat. Sci. 2	Nat. Sci. 1
Fluid Power	Nat. Sci. 2
Marine Ref & AC	
Tribology	
Thermo	
E-Watch	Aux Mach 1
Maintenance & Repair	MPS1 & 2, Mashop 1,2, & 3.
ERM (Engine Room Management)	E-Watch
MarLaw (To include PMRR)	
PersMan	
Security Awareness	



Courses	Pre-requisite
English 1	
English 2	English 1
English 3	English 2
Phys 1	
Phys 2	Phys 1
P.E. 1	
P.E. 2	P.E. 1
P.E. 3	
P.E. 4	

Section 9. Safety Courses

All Maritime Higher Education Institutions shall comply with the minimum standards provided for under CHED Memorandum Order No. 20, series of 2010 governing the basic safety training course. The advance safety course as required under the 1978 STCW convention as amended shall also be complied with.

Section 10. Shipboard Training

All Maritime Higher Education Institutions shall comply with the minimum standards provided for under CHED Memorandum Order No. 2, series of 2012 entitled "*Implementing Guidelines on the Shipboard Training Requirement for the Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMarE) Programs*".

Section 11. Program of Study

In light of the paradigm shift towards student-centered education, the program of study is expected to show its learning outcomes. The graduate of BSMarE is expected to possess a wide range of abilities and skills divided into three broad categories:

- a) Engine-related cognitive abilities and skills, e.g., abilities and skills relating to intellectual tasks, including analysis of problems and systematic problem-solving;
- b) Engine-related practical skills, e.g., skills relating to the conduct of laboratory work, proper use of equipment and the like ; and
- c) Generic skills that may be developed during the program and which are applicable in many other contexts, such as maritime communication and discourse in view of issues and policy.

The program of study is provided in **Annex "A"** of this CMO. MHEIs offering the BSMarE program shall revise and update the said program of study depending on the needs of the industry, current trends and practices, effect of promulgation



and implementation of new laws, rules and regulations locally and internationally (e.g. amendments to the STCW Convention) and such other factors or considerations as may be applicable. Provided, That all prescribed courses/competencies as required herein shall be offered and complied with, and pre-requisites and co-requisites are observed. Provided further that the revised and updated curriculum shall be approved by CHED.

Section 12. Summary Matrix of STCW Function vis-à-vis Courses

STCW FUNCTION	1 ST YEAR		2 ND YEAR		3 RD YEAR	
	1 ST SEM	2 ND SEM	1 ST SEM	2 ND SEM	1 ST SEM	2 ND SEM
FUNCTION 1		MarE Draw	Nat. Sci. 2	MPS1 (Steam)	MPS2 (Diesel & Electric)	SEAM 5
				Aux Mach 1	Aux Mach 2	
	Nat. Sci. 1		Tribology	Fluid Power	E-Watch	
			Thermo	Marine Ref & AC		
FUNCTION 2	Electro1	Electro2		Electro3		
FUNCTION 3	Mashop 1	Mashop 2		Mashop3	Auto1	Auto2
			E Mat			Maintenance & Repair
FUNCTION 4		Mar. Env.	Safety1			Safety2
			Naval Arch 1 (to include Seamanship)			MarLaw
						PersMan
						ERM (Engine Room Management)

Section 13. Review, Revision and Approval of Curriculum

Every maritime HEI offering the BSMarE program shall, for purposes of updating and enriching their program offerings, conduct monitoring of the curriculum and the corresponding course syllabi comprising such programs at least once in a year and program review every five years. For this purpose, MHEIs shall incorporate in its Quality Management Manual the procedures to undertake such review, guided by the following:

a) Review and Revision

1. Any review and revision of curriculum and course syllabi shall be aimed towards continuing improvement of the BSMarE program.



2. Such review and revision shall consider the needs of the industry, current trends and practices, effect of promulgation and implementation of new laws, rules and regulations locally and internationally (e.g. amendments to the STCW Convention) and such other factors or considerations as may be applicable.
3. Any review and revision made on the curriculum and course syllabi must be clearly and properly identified and presented for purposes of evaluation and approval.
4. The proposed revised program curriculum/syllabi/outcomes shall be subject to the approval of CHED.

b) Submission of the Proposed revised Program Curriculum/ Course Syllabi

1. Any proposed revision to the program curriculum and/or course syllabi shall be submitted to CHED for approval.
2. The application must be duly supported with documentary evidence that the proposed revised program curriculum/ course syllabi is responsive to and in accordance with the needs of the industry, current trends and practices, new laws, rules and regulations, among others.
3. The application shall then be forwarded by the CHEDRO to the MEU-OPS of the CHED Central Office upon receipt thereof.

c) Evaluation of the Proposed revised Program Curriculum/ Course Syllabi

1. The MEU-OPS evaluates the application for approval of the proposed revised program curriculum/ course syllabi together with the supporting documents thereof to determine whether the revision observes pre-requisites, relevance, responsiveness and appropriateness of the revisions made;
2. The duly evaluated proposed revised program curriculum/ course syllabi shall then be referred to the CHED's Technical Panel for Maritime Education (TPME) for final review. The TPME shall recommend approval or disapproval or ocular inspection depending on the revisions made relative to the technical requirement for laboratory equipment as specified under the 1978 STCW convention as amended.

d) Approval of the Proposed revised Program Curriculum/ Course Syllabi

1. If the TPME finds the proposed revised program curriculum/ course syllabi in order and meritorious, the same shall be recommended for approval by the OPS Director.
2. Upon receipt of the TPME recommendation, the OPS Director shall then approve the proposed revised program curriculum/ course syllabi and endorse the same to the Executive Director.
3. The Executive Director approves the proposed revised program curriculum/ course syllabi and informs the MHEI through the CHEDRO of the approval thereof.

e) Disapproval of the Proposed revised Program Curriculum/ Course Syllabi

1. If the TPME finds the proposed revised program curriculum/ course syllabi untenable and without merit, the same shall be recommended for disapproval by the OPS Director.
2. Upon receipt of the TPME recommendation, the OPS Director shall then disapprove the proposed revised program curriculum/ course syllabi and endorse the same to the Executive Director.
3. The Executive Director disapproves the proposed revised program curriculum/ course syllabi and informs the MHEI through the CHEDRO of the disapproval thereof.

f) Effectivity and Implementation of the revised Program Curriculum/ Course Syllabi

1. A duly approved revised program curriculum/ course syllabi shall take effect and be implemented in the first semester of an academic year.
2. Such revised program curriculum/ course syllabi shall only cover incoming freshmen students.

**ARTICLE VI
COURSE SPECIFICATIONS**

Section 14. The course specifications for the BSMarE program are contained in **Annex "B"** of this CMO.



ARTICLE VII PROGRAM ADMINISTRATION

Section 15. Organization

A distinct and separate College of Maritime Education shall be established for the operation of maritime programs. There shall be established under the College of Maritime Education a department for every maritime program.

The College of Maritime Education shall be managed by a Dean. However, if only one program is offered, the Dean may serve as concurrent department chair where appropriate.

Section 16. Dean

The dean shall have the following qualifications:

A. for holder of management level certificate:

- 1) Holder of a Bachelor's degree – Bachelor of Science in Marine Transportation (BSMT) or BSMarE;
- 2) Holder of not less than 24 months of sea-going service as Chief Mate (C/M) or Second Engineer Officer (2/E);
- 3) Holder of a valid Professional Regulation Commission (PRC) License as Management Level Officer
- 4) Holder of not less than three (3) years of teaching experience and two (2) years of managerial experience; and
- 5) Completed the following training courses:
 - ✓ IMO Model Course 6.09 (Training Course for Instructors)
 - ✓ IMO Model Course 3.12 (Assessment, Examination and Certification of Seafarers)

B. For holder of Officer in Charge of a Navigational Watch (OIC-NW)/ Officer in Charge of a Engineering Watch (OIC-EW) certificate:

- 1) Holder of a BSMT or BSMarE degree;
- 2) Holder of Master's degree;
- 3) Holder of a valid PRC license as OIC-NW or OIC-EW and have not less than 36 months of sea-going experience in such capacity;



- 4) Holder of not less than five (5) years of teaching experience and three (3) years of managerial experience; and
- 5) Completed the following training courses:
 - ✓ IMO Model Course 6.09 (Training Course for Instructors)
 - ✓ IMO Model Course 3.12 (Assessment, Examination and Certification of Seafarers)

The Dean shall be allowed to handle a maximum teaching load of not more than 12 hours a week.

Section 17. Department Chair/Head

The Marine Engineering Department under the College of Maritime Education shall be administered by a Department Chair/Head who shall have the following qualifications:

- a) Holder of BSMarE degree;
- b) Holder of a management level certificate with not less than 12 months of sea-going experience as 2/E;
- c) Holder of a valid PRC license;
- d) Holder of not less than two (2) years of teaching experience; and
- e) Completed the following training courses:
 - ✓ IMO Model Course 6.09 (Training Course for Instructors)
 - ✓ IMO Model Course 3.12 (Assessment, Examination and Certification of Seafarers)

The Department Chair/Head shall be allowed a maximum teaching load of 18 hours a week.

Section 18. Faculty

18.1 Faculty members teaching **General Education Courses** shall be holders of appropriate master's degree in his/her field of specialization. However, in specific fields where there is dearth of holders of Master's degree, a holder of professional license requiring at least a bachelor's degree may be qualified to teach.

Faculty members teaching physical education courses shall be holders of a bachelor's degree in physical education or Bachelor of Science in education with major or minor in physical education, or any other bachelor's degree with certificate in physical education.



18.2 Faculty members teaching **Special Professional Courses** shall be holders of relevant academic degree, valid certificate of registration and professional license, experiences and credentials as follows:

- a) BSMarE degree;
- b) Holder of a valid certificate of registration and PRC license as OIC-EW;
- c) Holder of not less than 12 months of sea-going experience as an OIC-EW on seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more; and
- d) Certificate of completion of the "Training Course for Instructors" (IMO Model Course 6.09).

The faculty may be allowed a maximum teaching load of 40 hours per week.

Special Professional Courses are courses which are mandated by professional licensing bodies/entities in the case of academic programs with government licensure examination.

18.3 Faculty members teaching **courses which fall under the category of allied fields** as enumerated under Section 4.4 of this CMO shall be holders of the following:

- a) Appropriate Bachelor's degree in such allied fields;
- b) Valid certificate of registration and PRC license of his/her profession; and
- c) Certificate of completion of the "Training Course for Instructors" (IMO Model Course 6.09)

The faculty may be allowed a maximum teaching load of 40 hours per week.

18.4 Faculty members **teaching courses involving the use of simulators**, in addition to the requirements in the preceding paragraph shall:

- a) Be holder of a Certificate of Completion of the "Train the Simulator Trainer and Assessor Course" (IMO Model Course 6.10), or an approved training course for Simulator Instructors and Assessors by the Philippines' STCW Administration;
- b) Have acquired appropriate guidance in instructional techniques involving the use of simulators; and
- c) Have gained practical operational experiences on the particular type of simulators being used.



Note: transfer of technology training conducted by the supplier of simulator being used satisfies the above requirement.

18.5 A faculty member with a very satisfactory teaching performance may be allowed to handle additional teaching load of six (6) hours per week.

18.6 There shall be faculty manual containing information and policies on:

- a) Hiring, retention, promotion and separation;
- b) Functions and responsibilities;
- c) Ranking system;
- d) Evaluation;
- e) Salary rates;
- f) Faculty benefits; and
- g) Code of conduct/ethics

18.7 Faculty-Student Ratio - For effective teaching-learning process the faculty-student ratio per lecture class is 1:50.

18.8 Student-Equipment Ratio – refer to respective course specs.

18.9 Faculty Development

MHEIs shall develop and implement a system of faculty development for professional advancement of the faculty members for the special professional subjects.

Section 19. Assessors

Persons conducting assessment of competence of a cadet within the institution shall:

- a) have an appropriate level of knowledge and understanding of the competence to be assessed
- b) be qualified in the task for which the assessment is being made
- c) have undergone training in:
 - ✓ "Training Course for Instructors" (IMO Model Course 6.09)
 - ✓ "Assessment, Examination and Certification of Seafarers" (IMO Model Course 3.12); and
 - ✓ "Train the Simulator Trainer and Assessor Course" (IMO Model Course 6.10), or an approved training course for Simulator Instructors and Assessors by the Philippines' STCW Administration for those assessing competence using simulators;



- d) gained practical assessment experience on the particular type of simulator under the supervision and to the satisfaction of an experienced assessor

Section 20. Technical Support Personnel

Technical Support Personnel particularly those in the laboratory must have the appropriate training or certification on laboratory supervision and safety. Laboratory safety is the responsibility of the institution. As such, the institution shall be responsible for keeping its laboratories properly used and maintained and free from dangers and hazards which may cause accidents or disease. The following must be observed:

- a) All laboratory activities shall be properly and adequately supervised by a faculty member; students shall not be allowed to work inside the laboratories unsupervised; and
- b) Each department with laboratory/ies shall have full-time laboratory technician/s to maintain laboratory facilities;

Section 21. Library

The library under the College of Maritime Education shall be administered by a professional librarian with two (2) library assistants. The librarian must possess a valid PRC License.

21.1 Library Holdings

- a) Basic Collection
 - 1) 3,000 volumes for start-up schools (50% of the holdings should be distinct titles)
 - 2) 5,000 volumes after two-years of operation (50% of the holdings should be distinct titles)
- b) Inclusion of Basic Collection
 - 1) General References
 - 2) Cultural
 - 3) Filipiniana
 - 4) Humanities
 - 5) Social Science
 - 6) Science and Technology
 - 7) General Education courses should have not less than five (5) titles per course



c) Professional Book Holdings

- 1) Five (5) titles per professional course. Instructors' Manuals are not counted as titles
- 2) Published within the last 5 years or publications that remain their validity
- 3) The number of volumes is calculated at a ratio of 1 volume per 15 students enrolled in the course
- 4) Maritime international laws, conventions, protocols and relevant publications.

d) Periodical Collection

- 1) Newspapers
- 2) On-line subscriptions to Journals may be credited (1 international and 2 local)
- 3) Magazines
- 4) Bulletins
- 5) Reviews

21.2 Library Space

The library space should accommodate at least five percent (5%) of the total enrollment at any given time.

21.3 Networking

Libraries shall participate in inter-institutional activities and cooperative programs whereby resource sharing is encouraged.

**ARTICLE VIII
FACILITIES AND EQUIPMENT**

Section 22. Institutional Sites and Buildings

An MHEI shall own its institutional sites and buildings to conform with CHED standards, building code and city/provincial ordinances. The school site and building shall be equipped with adequate equipment, safety measures and procedures in the following:

- a) Fire escape
- b) Fire alarm systems
- c) Campus security force

Site/Building/Room Requirements shall include the following:

- a) Institutional site/lot



- b) Athletic field and/or gymnasium
- c) Administrative Offices (General or Executive Office, Registrar, Accounting, National Service Training Program (NSTP), Guidance/Placement office)
- d) Medical and dental clinic
- e) Toilets
- f) Canteen/cafeteria
- g) Faculty room
- h) Student lounge
- i) Library room
- j) Laboratory room
- k) Tool room
- l) Shipboard Training Office
- m) Research and Extension Office
- n) Assessment room

Section 23. Classroom

The standard classroom shall be a minimum of 30 square meters for a class of 25 students and 56 square meters for a class of 50 students. Classrooms must be well-lighted and well-ventilated. They should contain the necessary equipment and furniture such as chairs, instructor's table/podium, and black/white boards.

Section 24. Laboratory

The laboratory rooms should allow a space of 2 square meters per student for a laboratory size of 25 students or an appropriate space considering the size of equipment as per course specifications. They should be well-ventilated and well-lighted, contain the specific laboratory equipment and must be provided with adequate water supply. The following laboratory rooms shall be made available as follows:

- a) Physics laboratory room
- b) Chemistry laboratory room
- c) Computer laboratory room
- d) Basic and Advanced safety training course laboratory room
- e) Engine Simulator Room
- f) Machinery Room that can house the marine engine, refrigeration, electrical equipment, etc.
- g) Machine shop

24.1 Laboratory Equipment

All laboratory equipment shall be owned by the institution and located within the institutional site. There shall be sufficient number of equipment, machinery, apparatus, supplies, tools and other materials, accessories and consumables for laboratory experiments and practical exercises as contained in **Annex "C"** which are made an integral part of these policies, standards and guidelines. The laboratory training equipment as contained in **Annex "C"** shall be adapted in the following:



- a) Physical Sciences
- b) Basic and Advanced Safety Courses
- c) Special Professional Courses Laboratory Requirement

Sufficient and appropriate means that the number of such teaching aids and equipment shall be proportionate and adequate to the number of students enrolled in the particular subject.

Standards governing the use of simulators shall be contained in **Annex "D"**.

The institution shall provide the necessary audiovisual room and facilities with appropriate equipment in support of the teaching-learning process such as video/overhead/slide projector, sound system, LCD projectors, screens, and others.

ARTICLE IX RESEARCH AND EXTENSION

Section 25. Organization

There shall be established under the College of Maritime Education a research and extension office which shall be administered by a coordinator. The research and extension office shall be responsible for the administration and coordination of research and extension services.

Section 26. Research

Every MHEI shall encourage and support its faculty members and students to undertake research for the enhancement of maritime education programs and training. The following must be observed:

- a) Annual research budget
- b) Annual research agenda
- c) Proper documentation and maintenance of research output
- d) Research output must be visible in the library

Section 27. Extension

Every MHEI shall have extension services relevant to the maritime industry. The following must be observed:

- a) Annual extension services program
- b) Annual extension services budget
- c) Tracer study program
- d) Proper documentation of all extension activities must be maintained



ARTICLE X QUALITY STANDARDS SYSTEM

Every MHEI shall have a certified quality standards system in accordance with the provisions of the "Rules for a Quality Standards System in Maritime Higher Education Institutions" as contained in **Annex "E"** of this CMO.

New MHEIs applying for the operation of maritime program/s must have its QSS documentation for certification by a CHED authorized certifying body prior to issuance of government authority (first year permit). Subsequently, QSS certification must be secured before applying for the 2nd year level.

The QSS of MHEIs shall be evaluated by the CHED authorized certifying body at least once a year.

Considering that CHED has already delegated to the maritime institutions the authority to approve in its behalf the shipboard training of shipping companies where their cadets will be placed, the procedures for such approval shall be included in the QSS of the institution as well as all other policies and procedures as required under CMO No. 2, series of 2012.

The qualifications of internal auditor of the maritime institutions shall be specified in its QSS, and shall comply with requirements under Section A-I/8 of the STCW '78 as amended.

ARTICLE XI ADMISSION AND RETENTION

Maritime institutions shall adhere to the following admission and retention criteria:

- a) Student general admission requirements:
 - 1) High School graduate
 - 2) Medical examination following the prescribed Department of Health (DOH) medical requirements such as but not limited to: Urine, Stool, CBC, X-Ray, Psycho, Eyesight (Lantern or any other color perception test) and hearing examination.
- b) Student general retention requirements:
 - 1) Assessment of students after the first year level to ensure achievement of the program objectives; and
 - 2) Annual medical examination following the prescribed Department of Health (DOH) medical requirements such as but not limited to: Urine,



Stool, CBC, X-Ray, Psycho, Eyesight (Lantern or any other color perception test) and hearing examination.

Article XII MISCELLANEOUS PROVISIONS

Section 28. Sanctions

For violation of the foregoing policies, standards and guidelines, CHED shall impose sanctions, as it may deem appropriate pursuant to Republic Act No. 7722 [Higher Education Act of 1994], Batas Pambansa Bilang 232 [The Education Act of 1982], CMO No. 40, s. 2008 [Manual of Regulations for Private Higher Education of 2008 (MORPHE)] and all other applicable CHED rules and regulations and legislations, such as but not limited to outright closure or phasing-out of the BSMarE program pursuant to Section 61 of the MORPHE.

A BSMarE program which is ordered closed shall mean that its government authority is revoked. Whereas, a BSMarE program which is ordered phased-out shall mean that its government recognition is reverted to permit status. In both cases, the institution is prohibited from accepting enrollees at all levels.

However, phased-out programs shall be allowed to continue its operation so that affected students that are already in the second, third and fourth year levels shall have the opportunity to finish their studies until graduation. In no case shall affected students be prohibited from transferring to other MHEIs of their preference.

Students who completed their academic requirements on or before the issuance of closure or phase-out order shall be conferred the appropriate Bachelor's Degree upon completion of all other requirements for graduation including shipboard training.

The smooth transfer of students shall be effectively carried out by CHED Regional Office and the MHEI concerned. In the meantime, the MHEI has the option to convert said program/s to the Technical Vocational discipline.

Section 29. Repealing Clause

All issuances, relevant to policies, standards and guidelines which are inconsistent with the provision of this CMO are hereby repealed, amended, modified or superseded accordingly in accordance with the intent of this Order.

Section 30. Separability Clause

If any part or provision of this CMO shall be held unconstitutional or invalid, other provisions hereof which are not affected thereby shall continue to be in full force and effect.

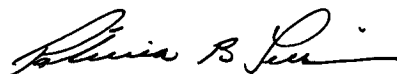


Section 31. Effectivity Clause

This CMO shall take effect immediately upon approval by the Commission and 15 days after its publication in the Official Gazette or in newspaper of general circulation. This CMO shall be implemented beginning School Year (SY) 2013-2014.

Quezon City, Philippines, 14 May 2013.

For the Commission:



PATRICIA B. LICUANAN, Ph.D.
Chairperson

