



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



**CHED MEMORANDUM ORDER (CMO)**

**No. 20**  
**Series of 2015**

**SUBJECT: *CONSOLIDATED POLICIES, STANDARDS AND GUIDELINES FOR THE BACHELOR OF SCIENCE IN MARINE TRANSPORTATION (BSMT) AND BACHELOR OF SCIENCE IN MARINE ENGINEERING (BSMarE) PROGRAMS***

In accordance with 1) the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "Higher Education Act of 1994" that mandates the Commission on Higher Education (CHED) to set minimum standards for higher education programs without abridgement of the curricular freedom of universities and colleges except for minimum unit requirements for specific academic programs; general education distribution requirements as may be determined by the Commission; and specific professional subjects as may be stipulated by various licensing entities; 2) CHED Memorandum Order (CMO) No. 2 Series of 2011 that revised the Guidelines in the formulation of CHED Policies, Standards and Guidelines of Academic Programs to hew more closely to the Constitutional provision of academic freedom in all institutions of higher learning and Section 13 of RA 7722; 3) CHED CMO No. 46 Series of 2012 that advocates the shift to learning competency-based policies, standards and guidelines in higher education programs as well as outcomes-based quality assurance, among others; 4) the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended that set the global learning competency-based standards for maritime education and training; and by virtue of the Commission en banc Resolution No. 209-2015 dated 12 May 2015, the following consolidated policies, standards and guidelines are hereby adopted and promulgated by the Commission.

**ARTICLE I**  
**INTRODUCTION**

**Section 1. Rationale and Background**

In 2005, qualified technical experts and representatives from the academe, industry, professional organizations, concerned government agencies and other stakeholder groups reviewed the Policies, Standards and Guidelines (PSGs) that governed the operation of maritime higher education programs (MHEIs) at the time, to ensure their compliance with national standards, the STCW requirements, and other relevant international laws and conventions. This review resulted in the consolidation of three (3) PSGs implemented by the Commission on Higher

Education (CHED) from 1997 to 1999: CMO No. 51 Series of 1997 (Policies, Standards and Guidelines for Maritime Education); CMO No. 38 Series of 1998 (Supplemental Policies, Standards and Guidelines to CMO 51); and CMO No. 10 Series of 1999 (Amendments to CMO No. 51 Series of 1997 and CMO No. 38 Series of 1998 (Policies, Standards and Guidelines for Maritime Education)).

In 2010, the Conference of parties to the STCW Convention held in Manila on 21-25 June 2010 adopted the Manila Amendments to the 1978 STCW Convention. These amendments updated the standards of competence required of marine deck and engineering officers at the operational level particularly, in light of emerging technologies, new training and certification requirements and methodologies, and medical fitness standards for seafarers among others, and ultimately for shipping companies to have a safe, secure and efficient shipping operation on cleaner oceans.

In view of the foregoing and in furtherance of the ongoing paradigm shift to learning competency-based standards in Philippine higher education, CHED issued CMO No. 13 and CMO No. 14 Series of 2013 (PSGs on Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering, respectively) to align the two undergraduate degree programs with national academic standards, industry needs and international standards.

The crafting of the two Amendments and Supplemental Policies, Standards and Guidelines to CMO 13 and 14 Series of 2013 was enlightened by the new model courses of the International Maritime Organization as approved by the General Assembly of the STW 44 Meeting on 3 May 2013.

At the same time, the General Assembly accepted another model course on Leadership and Teamwork for inclusion in the Model courses for OIC Navigational Watch and OIC Engineering Watch.

Against the backdrop of substantive model course changes that were approved a few days before the formal issuance on 14 May 2013 of CMO 13 and 14, CHED directed a mapping of the two programs against the STCW competence requirements as amended and the approved model courses.

The mapping took the following considerations into account: 1) the need to use the competence tables of STCW as the basis; 2) the use of the IMO model courses approved on 3 May 2013 as indicative of the allocation of the number of hours per course; 3) the inclusion of competences from Management Level Courses that do not require shipboard experience in the academic curriculum to enhance the competences of students, following the practice in different parts of the world and as required by the shipping companies; 4) the incorporation of the general education courses mandated by CHED for the Bachelor of Science degree programs; and 5) the coverage of courses that form part of the approved Shipboard Training Record Book as well as other requirements such as the handling of radio communication equipment, Global Maritime Distress and Safety Systems (GMDSS) for deck officers as stipulated in Chapter IV of STCW that would give students familiarity with the systems and operation of GMDSS even if they will eventually need a separate COC



for this.

The course mapping guided the supplemental amendments of CMOs 13 and 14 to 31 and 32 Series of 2013. The following articles and sections reflect the consolidated CMOs as aforementioned as well as additional revisions in the course maps and curriculum that further enhance the alignment of Philippine maritime education with the STCW as amended.

## **ARTICLE II DEFINITION OF TERMS**

**MARINA:** refers to the Maritime Industry Authority, which is the "Maritime Administration" or "Single Maritime Administration", in accordance with Sec. 2 (e) of R.A. 10635, or simply the "Administration" under STCW;

**Assessment:** the process of measuring the knowledge, skills or competences of individual learners;

**Evaluation:** the process of judging the educational quality of a higher education institution or program by using assessment results to determine its fitness with the accepted/declared set of standard

**Competence:** the ability that extends beyond the possession of knowledge and skills. It includes 1) the cognitive competence involving the use of theory and concepts as well as informal tacit knowledge gained experientially; 2) functional competence (skills or know-how), those things that a person should be able to do when they work in a particular area; 3) personal competence involving knowing how to conduct oneself in a specific situation; and 4) ethical competence involving the possession of certain personal and professional values.

For maritime education, specific cognitive and functional competences are provided in the competence Tables of the STCW Code;

**Course:** An integral component of a degree program with a specific title and description of coverage, learning context and goals, and the learner's responsibilities;

**Course Specifications:** For maritime education, a specification of the competence/knowledge, understanding and proficiencies (KUPs), performance and approximate hours for attaining the standards of STCW as amended. The description of each course—i.e. course title that may include the course number to indicate the sequential/ordinal nature of the course, e.g. English 1 and English 2, description of the coverage of the course, characteristics and content of teaching and learning outcomes, the academic demand and/or responsibility of the student, the independence of students in the pursuit of learning, and the depth of learning in the course shall be contained in the course specifications;



**Course Syllabus :** a collection of elements that shows the plan for the delivery of the course which includes competence; KUP and topics; intended learning outcomes; teaching and learning activities (TLA); equipment, materials, and teaching aids; references; assessment; allocated number of hours.

**Curriculum:** A specification of the learning outcomes of the proposed degree program—i.e. what students expect to know, understand, and be able to do after completing the program—that shows the minimum number of units required to attain them; a summary of required courses, electives, major courses, among others, and the minimum acceptable level of demonstrated achievement (evaluated against assessment criteria) for awarding credits;

**Curriculum Mapping:** is the process of indexing or diagramming a curriculum to identify and address academic gaps, redundancies, and misalignments for purposes of improving the overall coherence of a course of study and, by extension, its effectiveness;

**Diploma:** a certificate given by a higher education institution to a student who has fulfilled all the requirements of a Bachelor's degree. In the case of a Bachelor's degree in Marine Transportation and Marine Engineering, granting a diploma presupposes completion of the academic requirements, basic training, security and advanced safety courses, and shipboard training in a seagoing ship;

**Seagoing Ship:** a ship other than those which navigate exclusively in inland waters or in waters within, or closely adjacent to, sheltered waters or areas where port regulations apply;

**Competency Standards:** Demonstration of the knowledge, skills and competencies linked to the practice of a job or profession in accordance with requirements of the job;

**Learner Outcomes:** clear statements of what the learner expects to know, understand, and do as a result of a learning experience;

**Outcomes-Based Education:** an educational approach that implies the best way to learn is to first determine what needs to be achieved. Once the desired results or "exit outcomes" have been determined, the strategies, processes, techniques and means are put in place to achieve predetermined goals. In essence, it is working backward with students as the center of the learning-teaching milieu;

**Outcomes-Based Assessment:** In this approach, the program outcomes are largely measured against the policies, standards and guidelines of the discipline, which, in the case of maritime education, are aligned with the STCW standards as amended as well as those of other international conventions;

**Program of Study:** an articulation of learning outcomes and the corresponding courses, sequence, and credit number assigned to courses which intend to develop



the required learning competences and achieve threshold standards of a particular discipline;

**STCW Code:** the Code adopted in the 1995 Conference of Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, which was convened by the International Maritime Organization in its headquarters from 26 June to 7 July 1995. The Code contains two (2) parts, in **Part A**, mandatory provisions to which specific reference is made to the Annex of the STCW Convention and which give in detail, the minimum standards required to be maintained by Parties in order to give full and complete effect to the provisions of the STCW Convention. **Part B** contains recommended guidance to assist Parties to the STCW Convention and those involved in implementing, applying or enforcing its measures to give the STCW Convention full and complete effect in a uniform manner;

**STCW Convention:** the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 which entered into force in April 1984, and which has since been amended in 1991, 1994, 1995, 1997, 1998, 2004, 2006 and 2010; and

**Unit:** the credits of a course that can be transferred to a qualification other than the one for which it is obtained.

### **ARTICLE III PROGRAM OPERATION AND AUTHORIZATION**

#### **Section 2. Authority to Operate**

The Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMarE) programs 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 IV PROGRAM SPECIFICATIONS**

#### **Section 3. Program Title and Degree Name**

The program title of the approved education and training for Marine Deck Officers at the operational level shall be **Bachelor of Science in Marine Transportation (BSMT)**. 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 Transportation (BSMT)**.



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**

The **Bachelor of Science in Marine Transportation** is a higher education degree program that deals with the study of navigation, cargo handling and stowage, controlling the safe operation and care for persons onboard the ship at the operational level.

The **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**

**4.1.1 The Bachelor of Science in Marine Transportation (BSMT) program aims to:**

- a) Provide and equip students with knowledge, understanding, proficiencies, skills, competences, attitudes and values to qualify and prepare them for assessment and certification as Officer-in-Charge of a Navigational Watch (OICNW) on seagoing ships of 500 gross tonnage or more; and
- b) Produce graduates who are qualified to pursue a professional career or advanced studies in a related maritime field of specialization.

**4.1.2 The Bachelor of Science in Marine Engineering (BSMarE) program aims to:**

- a) Provide and equip students with knowledge, understanding, proficiencies, skills, competences, attitudes and values to qualify and prepare them for assessment and certification as Officer-in-Charge of an Engineering Watch (OICEW) 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; and
- b) Produce graduates who are qualified to pursue a professional career or advanced studies in a related maritime field of specialization.

#### **4.2 Program outcomes**



**4.2.1 The graduates of the BSMT program shall have acquired the knowledge and competences necessary to perform the following:**

- a) Demonstrate the ability to perform the competence, at the operational level under Section A-II/1 of the STCW Code;
- b) Apply knowledge in mathematics, science and technology in solving problems related to the profession and the workplace;
- c) Work in a multi-cultural and/or multi-disciplinary team;
- d) Understand professional and ethical responsibilities;
- e) Communicate effectively in oral and written English;
- f) Understand the impact and implications of various contemporary issues in the global and social context of the profession;
- g) Engage in lifelong learning and keep abreast with developments in the field of specialization and/or profession;
- h) Use appropriate techniques, skills and modern tools in the practice of the profession in order to remain globally competitive; and
- i) Conduct research using appropriate research methodologies.

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

- a) Demonstrate the ability to perform the competence, at the operational level under Section A-III/1 of the STCW Code;
- b) Apply knowledge in mathematics, science and technology in solving problems related to the profession and the workplace;
- c) Work in a multi-cultural and/or multi-disciplinary team;
- d) Understand professional and ethical responsibilities;
- e) Communicate effectively in oral and written English;
- f) Understand the impact and implications of various contemporary issues in the global and social context of the profession;
- g) Engage in lifelong learning and keep abreast with developments in the field of specialization and/or profession;
- h) Use appropriate techniques, skills and modern tools in the practice of the profession in order to remain globally competitive; and
- i) Conduct research using appropriate research methodologies

**4.3 Specific Professions/Careers/Occupations or Trades**

**4.3.1 A graduate of the BSMT program is prepared for careers in, among others:**

- a) Merchant Marine profession
- b) Maritime Industry
  - 1) Ship building and repair
  - 2) Ship operations and management
  - 3) Port operations and management
  - 4) Ship surveying and inspection
  - 5) Offshore industry



- c) Maritime Education and Training
- d) Government
  - 1) Philippine Navy
  - 2) Philippine Coast Guard
  - 3) Maritime Industry Authority

**4.3.2 A graduate of the BSMarE program is prepared for careers in, among others:**

- a) Merchant Marine profession
- b) Maritime Industry
  - 1) Ship building and repair
  - 2) Ship operations and management
  - 3) Port operations and management
  - 4) Ship surveying and inspection
  - 5) Offshore industry
- c) Maritime Education and Training
- d) Industrial and Commercial Establishment
- e) Government
  - 1) Philippine Navy
  - 2) Philippine Coast Guard
  - 3) Maritime Industry Authority

#### **4.4 Allied Programs**

**4.4.1 The following shall be considered as allied to the BSMT program for purposes of determining the qualifications of faculty:**

- a) Marine Engineering
- b) Mechanical Engineering
- c) Electrical Engineering
- d) Chemical Engineering
- e) Naval Architecture
- f) Maritime Law
- g) Meteorology
- h) Medicine and Nursing (Emergency First Aid and Medical First Aid)

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

- a) Marine Transportation
- b) Mechanical Engineering
- c) Electrical Engineering
- d) Chemical Engineering
- e) Electronics Engineering
- f) Industrial Engineering
- g) Instrumentation and Control Engineering
- h) Naval Architecture





- i) Maritime Law
- j) Medicine and Nursing (Emergency First Aid and Medical First Aid)

**ARTICLE V  
STANDARDS OF COMPETENCE, ASSESSMENT AND CONFERMENT OF  
THE DEGREE**

**Section 5. Standards of Competence**

**5.1** Every student who has satisfactorily completed the BSMT Program shall have acquired the standard of competence specified under the following:

- a) Regulation II/1, paragraph 2 [.2], [.3], [.5], [.6 only BT];
- b) Regulation II/1, paragraph 2 [.4] on basic understanding of Radio Communication; and
- c) Part of Regulation II/2 Paragraph 2.2 as can be found in the **Curriculum Mapping**.

**5.2** Every student who has satisfactorily completed the BSMarE Program shall have acquired the standard of competence specified under the following:

- a) Regulation III/1, paragraph 2 [.2] up to [.5 only BT];
- b) Part of Regulation III/2 Paragraph 2.2 as can be found in the **Curriculum Mapping**.

**Section 6. Assessment of Competence**

**6.1** Every student who has satisfactorily completed the BSMT shall be assessed under the following standard of competence:

- a) Section A-II/1;
- b) Part of Section A-II/2; and
- c) Basic understanding of Radio Communication.

**6.2** Every student who has satisfactorily completed the BSMarE shall be assessed under the following standard of competence:

- a) Section A-III/1; and
- b) Part of Section A-III/2.

**Section 7. Conferment of the Degree**

**7.1 The issuance of a diploma for a BSMT degree requires:**

- a) Completion of academic course requirement;
- b) Completion of the required seagoing service per CMO No. 20, series of 2014; and



- c) Completion of the basic training, advanced safety courses and security courses.

CHED shall issue the Certification, Authentication and Verification of the Transcript of Records of graduates of maritime higher education institutions that are compliant to CHED and STCW requirements.

### **7.2 The issuance of a diploma for a BSMarE degree requires:**

- a) Completion of the academic course requirement
- b) Completion of the required seagoing service per CMO No. 20, series of 2014; and
- c) Completion of the basic training, advanced safety courses and security courses.

CHED shall issue the Certification, Authentication and Verification of the Transcript of Records of maritime higher education institutions that comply with the standards of STCW.

## **ARTICLE VI CURRICULUM**

### **Section 8. Curriculum Description**

#### **8.1 Bachelor of Science in Marine Transportation Program**

The BSMT program shall consist of a minimum total of 196 credit units for Academic Year 2015-2016, 2016-2017 and 2017-2018. The program consists of the general education component following the CHED general education curriculum – B (GEC B) under CO No. 4 Series of 1997, professional courses, shipboard training, Physical Education (PE) and the National Service Training Program (NSTP).

As a requirement for the conferment of the BSMT degree, advanced safety courses and security courses are included in the curriculum without corresponding units. Provided, however, that students may only be allowed to enroll in advanced safety courses after the required shipboard training.

**The sequencing of the courses according to pre-requisites and co-requisites shall be observed.** The shipboard training per CMO No. 20 Series of 2014 is in line with the requirements of the 1978 STCW Convention as amended, in which the students shall be trained 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 fulfill the requirements of the shipboard training.

The instructional approach for this program shall be learner-centered and outcomes-based to prepare the students for a career at sea and effectively carry out



the tasks, duties and responsibilities of an Officer-In-Charge of a Navigational Watch.

## **8.2 Bachelor of Science in Marine Engineering program**

The BSMarE program shall consist of a minimum total of 198 credit units for Academic Year 2015-2016, 2016-2017 and 2017-2018. The program consists of the general education component following the CHED general education curriculum – B (GEC B) under CO No. 4 Series of 1997, professional courses, shipboard training, Physical Education (PE) and the National Service Training Program (NSTP).

As a requirement for the conferment of the BSMarE degree, advanced safety courses and security courses are included in the curriculum without corresponding units. Provided, however, that students may only be allowed to enroll in advanced safety courses after the required shipboard training.

**The sequencing of the courses according to pre-requisites and co-requisites shall be observed.** The shipboard training per CMO No. 20 Series of 2014 is in line with the requirements of the 1978 STCW Convention as amended, in which the students shall be trained 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 fulfill the requirements of the shipboard training.

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

## **Section 9. Curriculum Outline and Content**

### **9.1 Bachelor of Science in Marine Transportation program**

The outline and content of the curriculum of maritime higher education institutions (MHEIs) shall be based on the mapping in **ANNEX A** of courses and hours against the prescribed competence, knowledge, understanding and proficiency for the different functions outlined in Table A-II/1. The course mapping includes part of management level course for marine deck officers.

The MHEIs shall determine the distribution of course hours into lecture and laboratory hours and the corresponding units for laboratory work, keeping in mind the importance of laboratory hours for honing the competencies of officers-in-charge of a navigational watch. **CHED shall approve the revised curriculum of the MHEIs to ensure that it meets the minimum standards of the STCW.**

The Maritime Higher Education Institutions are expected to comply with the pre-requisites and co-requisites of the required courses.



**9.1.1 CURRICULUM FOR THE BACHELOR OF SCIENCE IN MARINE TRANSPORTATION FOR AY 2015-2016, 2016-2017, AND 2017-2018**

Courses	No. of Courses	Equivalent Units per Course	Total Units
GENERAL EDUCATION COURSES (enhanced GEC-B CMO 4 1997)	20		61
Languages	6	3	18
English 1 – Study and Thinking Skills in English			
English 2 – Writing in the Discipline			
English 3 – Speech Communication with IMO SMCP			
English 4 – Research (Report Writing)			
Filipino 1 – Komunikasyon sa Akademikong Filipino			
Filipino 2 – Pagbasa at Pagsulat tungo sa Pananaliksik			
Humanities	2	3	6
Humanities 1 –World Culture and Geography			
Humanities 2 – Ethics			
Mathematics	3	3	9
Math 1 – College Algebra			
Math 2 – Plane and Spherical Trigonometry			
Math 3 – Solid Mensuration			
Natural Sciences	3	3	10
Nat. Sci. 1 – General Physics 4 (3-3)			
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			
Social Sciences	4	3	12
Soc. Sci. 1 – Politics and Governance with Philippine Constitution			
Soc. Sci. 2 – Society and Culture with Family Planning, STD, HIV, and AIDS Prevention			
Soc. Sci. 3 – General Psychology with Alcohol and Drug Prevention			
Soc. Sci. 4 – Basic Economics w/ Taxation and Agrarian Reform			
Mandated Course/s	1	3	3
Rizal - The Life and Works of Dr. Jose Rizal			
PROFESSIONAL COURSES	23		81
Nav 1 – Navigational Instruments with Compasses		4 (3-4)	



Courses	No. of Courses	Equivalent Units per Course	Total Units
Nav 2 – Terrestrial and Coastal Navigation 1		5 (5-0)	
Nav 3 – Terrestrial and Coastal Navigation 2		5 (3-6)	
Nav 4 – Celestial Navigation		3 (2-3)	
Nav 5 – Operational use of RADAR/ARPA		3 (2-3)	
Nav 6 – Operational use of ECDIS		2 (1-3)	
Nav 7 – Voyage Planning		3 (2-3)	
Seam 1 – Ship, Ship Routines and Ship Construction		4 (3-3)	
Seam 2A – Trim, Stability and Stress 1		5 (5-0)	
Seam 2B – Trim, Stability and Stress 2		6 (6-0)	
Seam 3 – Cargo Handling and Stowage (Non-Dangerous Goods)		3 (3-1)	
Seam 4 – Cargo Handling & Stowage (Dangerous Goods and Inspections)		3 (3-1)	
Seam 5 – Ship Handling and Maneuvering		2 (1-3)	
D-Watch 1 – Collision Regulations		4 (3-3)	
D-Watch 2 – Deck Watchkeeping		3 (3-1)	
Met-O 1 – Meteorology and Oceanography 1		5 (5-0)	
Met-O 2 – Meteorology and Oceanography 2		4 (4-0)	
Safety 1-Basic Training <i>(Students must take this training in an Administration-accredited training center)</i>		No credit unit	
Safety 2 – Advanced Fire Fighting (AFF); Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats (PSCRB); Medical First Aid (MFA) <i>(Students must take this training in an Administration-accredited training center)</i>		No credit unit	
Mar Env – Protection of the Marine Environment		3 (3-0)	
Mar Law – Maritime Law		4 (4-0)	
Marcom – Maritime Communications		3 (2-3)	
Mar Power – Basic Marine Engineering		4 (4-0)	
Persman – Leadership and Teamwork		3 (3-0)	
<i>SAT &amp; SDSD – Security Awareness Training (Section A-VI/6-1) Seafarers with Designated Security Duties (Section A-VI/6-2)</i>		<i>Students must take this training in an Administration accredited training center before shipboard training</i>	
SHIPBOARD TRAINING (CMO 20, series of 2014)	1		40
PHYSICAL EDUCATION COURSES	4	2	8
P. E. 1 – Basic Swimming			
P. E. 2 – Advanced Swimming			
P. E. 3 – Dual Sports			



Courses	No. of Courses	Equivalent Units per Course	Total Units
P. E. 4 – Team Sports			
NATIONAL SERVICE TRAINING PROGRAM (NSTP)	2	3	6
<b>SUMMARY OF UNITS</b>			
General Education Courses			61
Professional Courses			81
Shipboard Training			40
P.E.			8
NSTP			6
<b>TOTAL NO. OF UNITS</b>			<b>196</b>

### 9.1.2 Pre-requisites and Co-requisites

COURSES	PRE-REQUISITES	CO-REQUISITES
English 1 – Study and Thinking Skills in English		
English 2 – Writing in the Discipline	English 1	
English 3 – Speech Communication with IMO SMCP	English 2	
English 4 – Research (Report Writing)	English 3	
Filipino 1 – Komunikasyon sa Akademikong Filipino		
Filipino 2 – Pagbasa at Pagsulat tungo sa Pananaliksik	Filipino 1	
Humanities 1 –World Culture and Geography		
Humanities 2 – Ethics		
Math 1 – College Algebra		
Math 2 – Plane and Spherical Trigonometry		
Math 3 – Solid Mensuration	Math 2	
Nat. Sci. 1 – General Physics		
Nat. Sci. 2 – Applied Physics	Nat. Sci. 1	
Nat. Sci. 3 – General Chemistry		
IT - Computer Applications and Networking		
Soc. Sci. 1 – Politics and Governance with Philippine Constitution		
Soc. Sci. 2 – Society and Culture with Family Planning, STD, HIV, and AIDS Prevention		
Soc. Sci. 3 – General Psychology with Alcohol and Drug Prevention		
Soc. Sci. 4 – Basic Economics w/ Taxation and Agrarian Reform		



COURSES	PRE-REQUISITES	CO-REQUISITES
The Life and Works of Dr. Jose Rizal		
P.E. 1 – Basic Swimming		
P.E. 2 – Advanced Swimming	P.E. 1	
P.E. 3 – Dual Sports		
P.E. 4 – Team Sports		
Nav 1 – Navigational Instruments with Compasses		
Nav 2 – Terrestrial and Coastal Navigation 1	Nav 1	
Nav 3 – Terrestrial and Coastal Navigation 2	Nav 2, Math 2	
Nav 4 – Celestial Navigation	Nav 3	
Nav 5 – Operational use of RADAR/ARPA	D-Watch 1	
Nav 6 – Operational use of ECDIS	Nav 5	
Nav 7 – Voyage Planning	Nav 6	
Seam 1 – Ship, Ship Routines and Ship Construction		
Seam 2A – Trim, Stability and Stress 1	Seam 1	
Seam 2B – Trim, Stability and Stress 2	Seam 2A	
Seam 3 – Cargo Handling and Stowage (Non-Dangerous Goods)	Seam 2B	
Seam 4 – Cargo Handling & Stowage (Dangerous Goods and Inspections)	Seam 2B	Seam 3
Seam 5 – Ship Handling and Maneuvering	D-Watch 1	
D-Watch 1 – Collision Regulations		
D-Watch 2 – Deck Watchkeeping	D-Watch 1	
Met-O 1 – Meteorology and Oceanography 1		
Met-O 2 – Meteorology and Oceanography 2	Met-O 1	Nav 7
Safety 1		
Safety 2	Safety 1	
Mar Env – Protection of the Marine Environment		
Mar Law – Maritime Law		
Marcom – Maritime Communications		
Mar Power – Basic Marine Engineering		
Persman – Leadership and Teamwork		
<i>SAT &amp; SDSD – Security Awareness Training (Section A-VI/6-1) Seafarers with Designated Security Duties (Section A-VI/6-2)</i>		

## 9.2 Bachelor of Science in Marine Engineering program

The outline and content of the curriculum of maritime higher education institutions (MHEIs) shall be based on the mapping in **Annex A** of courses and hours against the prescribed competence, knowledge, understanding and proficiency for the different functions outlined in Table A-III/1. The course mapping includes part of management level course for marine engineering officers



The MHEIs shall determine the distribution of course hours into lecture and laboratory hours and the corresponding units for laboratory work, keeping in mind the importance of laboratory hours for honing the competences of officers-in-charge of an engineering watch. **CHED shall approve the revised curriculum of the MHEIs to ensure that it meets the minimum standards of the STCW.**

The Maritime Higher Education Institutions are expected to comply with the pre-requisites and co-requisites of the other required courses.

### **9.2.1 CURRICULUM FOR THE BACHELOR OF SCIENCE IN MARINE ENGINEERING (BSMarE) FOR AY 2015-2016, 2016-2017, AND 2017-2018**

Courses	No. of Courses	Equivalent Units per Course	Total Units
GENERAL EDUCATION COURSES (enhanced GEC-B CMO 4 1997)	18	3	55
Language	6	3	18
English 1 – Study and Thinking Skills in English			
English 2 – Writing in the Discipline			
English 3 – Speech Communication with IMO SMCP			
English 4 – Research (Report Writing)			
Filipino 1 – Komunikasyon sa Akademikong Filipino			
Filipino 2 – Pagbasa at Pagsulat tungo sa Pananaliksik			
Humanities	2	3	6
Humanities 1 –World Culture and Geography			
Humanities 2 – Ethics			
Mathematics	3	3	9
Math 1 – College Algebra			
Math 2 – Plane Trigonometry and Solid Mensuration			
Math 3 – Calculus and Analytic Geometry			
Natural Sciences	1	4	4
Nat. Sci. 1 – Physics [4 (3-3)]			
Information Technology	1	3	3
Computer Applications and Networking			
Social Sciences	4	3	12
Soc. Sci. 1 – Politics and Governance with Philippine Constitution			
Soc. Sci. 2 – Society and Culture with Family Planning, STD, HIV, and AIDS Prevention			
Soc. Sci. 3 – General Psychology with Alcohol and Drug Prevention			
Soc. Sci. 4 – Basic Economics w/ Taxation and Agrarian Reform			





Courses	No. of Courses	Equivalent Units per Course	Total Units
Mandated Course/s	1	3	3
The Life and Works of Dr. Jose Rizal			
<b>PROFESSIONAL COURSES</b>	<b>24</b>		<b>89</b>
Machine Shop 1 - Hand and Measuring Tools		2 (1-4)	
Machine Shop 2 - Machining Tools		2 (1-4)	
Machine Shop 3 - Gas & Electric Welding		2 (1-4)	
Electro 1 - Basic Electricity		4 (3-3)	
Electro 2 – Marine Electronics and Electrical Maintenance		5 (4-3)	
Electro 3 - Marine Electricity		5 (4-3)	
Auxiliary Machinery 1		6 (5-3)	
Auxiliary Machinery 2		5 (4-3)	
PPD - Power Plant Diesel		5 (4-3)	
PASGT – Propulsion Ancillary Systems and Gas Turbine		3 (2-3)	
PPS - Power Plant Steam		6 (5-3)	
Auto 1 - Basic Control Engineering		4 (3-3)	
Auto 2 – Marine Automation		4 (3-3)	
Safety 1 – Basic Training <i>(Students must take this training in an Administration-accredited training center)</i>		No Credit Unit	
Safety 2 – Advanced Fire Fighting (AFF); Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats (PSCRB); Medical First Aid (MFA) <i>(Students must take this training in an Administration-accredited training center)</i>		No Credit Unit	
Persman – Leadership and Teamwork		3 (3-0)	
Mar Env – Protection of the Marine Environment		3 (3-0)	
Maint – Maintenance and Repair		3 (2-3)	
E Watch – Engine Watchkeeping with Resource Management		3 (3-1)	
Maritime Law		4 (4-0)	
Naval Architecture		4 (4-1)	
Engineering Materials		4 (4-0)	
Thermodynamics		4 (3-3)	
Maritime Drawing and Diagrams		1 (0-3)	
Industrial Chemistry and Tribology		3 (2-3)	
Mechanics and Hydromechanics		3 (3-0)	
<i>SAT &amp; SDSD – Security Awareness Training (Section A-VI/6-1) Seafarers with Designated Security Duties (Section A-VI/6-2) (Students must take this training in an Administration-accredited training center)</i>		No Credit Unit	



Courses	No. of Courses	Equivalent Units per Course	Total Units
SHIPBOARD TRAINING	1		40
PHYSICAL EDUCATION COURSES	4	2	8
P. E. 1 – Swimming			
P. E. 2 – Advanced Swimming			
P. E. 3 – Dual Sports			
P. E. 4 – Team Sports			
NATIONAL SERVICE TRAINING PROGRAM (NSTP)	2	3	6
<b>SUMMARY OF UNITS</b>			
General Education Courses			55
Professional Courses			89
Shipboard Training			40
P.E.			8
NSTP			6
<b>TOTAL NO. OF UNITS</b>			<b>198</b>

### 9.2.2 Pre-requisites and Co-requisites

COURSES	PRE-REQUISITES	CO-REQUISITES
English 1 – Study and Thinking Skills in English		
English 2 – Writing in the Discipline	English 1	
English 3 – Speech Communication with IMO SMCPs	English 2	
English 4 – Research (Report Writing)	English 3	
Filipino 1 – Komunikasyon sa Akademikong Filipino		
Filipino 2 – Pagbasa at Pagsulat tungo sa Pananaliksik	Filipino 1	
Humanities 1 –World Culture and Geography		
Humanities 2 – Ethics		
Math 1 – College Algebra		
Math 2 – Plane Trigonometry and Solid Mensuration		
Math 3 – Calculus and Analytic Geometry		
Nat. Sci. 1 – Physics [4 (3-3)]		
IT - Computer Applications and Networking		
Soc. Sci. 1 – Politics and Governance with Philippine Constitution		
Soc. Sci. 2 – Society and Culture with Family Planning, STD, HIV, and AIDS Prevention		
Soc. Sci. 3 – General Psychology with Alcohol and Drug Prevention		
Soc. Sci. 4 – Basic Economics w/ Taxation and Agrarian		



COURSES	PRE-REQUISITES	CO-REQUISITES
Reform		
The Life and Works of Dr. Jose Rizal		
P.E. 1 – Basic Swimming		
P.E. 2 – Advanced Swimming	P.E. 1	
P.E. 3 – Dual Sports		
P.E. 4 – Team Sports		
Machine Shop 1 - Hand and Measuring Tools		
Machine Shop 2 - Machining Tools	Machine shop 1	
Machine Shop 3 - Gas & Electric Welding	Machine shop 1	
Electro 1 - Basic Electricity		
Electro 2 – Marine Electronics and Electrical Maintenance	Electro 1	
Electro 3 - Marine Electricity	Electro 2	
Auxiliary Machinery 1		
Auxiliary Machinery 2	Aux Mach 1	
PPD - Power Plant Diesel	Thermodynamics	Auto 1
PASGT - Propulsion Ancillary Systems and Gas Turbine	Thermodynamics	
PPS - Power Plant Steam	PP1B	
Auto 1 - Basic Control Engineering	Electro 2	
Auto 2 – Marine Automation	Auto 1	
Safety 1 – Basic Training		
Safety 2 – Advanced Fire Fighting (AFF); Proficiency in Survival Craft and Rescue Boats other than Rescue Boats (PSCRB); Medical First Aid (MFA)		
Persman – Leadership and Teamwork		
Mar Env – Protection of the Marine Environment		
Maint – Maintenance and Repair	E - Materials	
E Watch – Engine Watchkeeping with Resource Management		
Maritime Law		
Naval Architecture		
Engineering Materials		
Thermodynamics	Math 1	
Maritime Drawing and Diagrams		
Industrial Chemistry and Tribology		
Mechanics and Hydromechanics	Math 2	
<i>SAT &amp; SDSD – Security Awareness Training (Section A-VI/6-1) Seafarers with Designated Security Duties (Section A-VI/6-2)</i>		

### Section 10. Safety and Security Courses



All Maritime Higher Education Institutions shall comply with the following minimum standards provided for under Chapter VI of the STCW Code, as amended, thus:

- 10.1 Section A-VI/1-1 Personal Survival Techniques
- 10.2 Section A-VI/1-2 Fire Prevention and Fire Fighting
- 10.3 Section A-VI/1-3 Elementary First Aid
- 10.4 Section A-VI/1-4 Personal Safety and Social Responsibility
- 10.5 Section A-VI/2-1 Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats
- 10.6 Section A-VI/3 Advanced Fire Fighting
- 10.7 Section A-VI/4-1 Medical First Aid
- 10.8 Section A-VI/6-1 Competence in Security Awareness
- 10.9 Section A-VI/6-2 Minimum standard of competence for seafarers with designated security duties

For the advanced courses that are required under Regulation II/1-2.6 of the STCW 1978, as amended, students shall have completed the courses (10.5 to 10.7 above) in an Administration-accredited maritime training institution.

For the advanced courses that are required under Regulation III/1-2.5 of the STCW 1978, as amended, students shall have completed the courses (10.5 to 10.7 above) in an Administration-accredited maritime training institution.

Before graduation, students shall present their Certificates of Proficiency (COPs) for these courses as requirement for graduation.

Maritime Higher Education Institutions (MHEIs) may establish their own training facilities for the training requirements under Section A-VI/1 paragraph 2 of the STCW Code as amended and according to the rules and regulations promulgated by the Philippines' STCW Administration.

MHEIs may opt to adopt a Memorandum of Agreement (MOA) with MARINA accredited training center subject to the following regulations:

- a) Applicant MHEIs shall submit to CHED the Memorandum of Agreement (MOA) with all the supporting documents for approval. The following supporting documents shall be submitted:
  - 1) Proof of MARINA accreditation;
  - 2) Results of assessment of the Maritime Training Center by the MHEI showing the following:
    - 1.1 Capacity to accommodate any number of students at any time
    - 1.2 Faculty student ratio
    - 1.3 Equipment student ratio



1.4 the theoretical and practicum components of the course shall be conducted in the training center

- 3) Parents' consent and Board resolution in case the MOA is with a training center not located within the region or neighboring regions.
- b) The MOA mentioned in this rule must be valid. This MOA shall be subjected to CHED monitoring and evaluation for a period of two (2) years. In case of any complaints, CHED shall conduct a verification visit of the training center;
- c) In case of transfer of the MOA to another training center or additional training center/s, the same procedure shall apply;
- d) In case the MOA is terminated, CHED must be immediately informed of such termination;
- e) In case the training center is no longer eligible to be a party to the MOA due to termination of accreditation, CHED must be informed immediately;
- f) The MHEI must have a MOA with the training center located within the region or neighboring regions that may be closer in location to the school. In case the MOA is outside the region or neighboring regions, the MHEI shall justify such MOA;
- g) The MHEI shall submit the following reports:
  - 1) List of graduates from the school
  - 2) Annual Summary Statistics of Training conducted per schedule from the school.
- h) The MOA shall be suspended or withdrawn based on the following conditions:
  - 1) Non submission of annual reports
  - 2) Violation of the Scope of Accreditation
  - 3) Violation of any provision of these guidelines and the MOA

The MHEIs shall facilitate the placement of cadets in an Administration-accredited maritime training institution and **monitor the progress of their training.**

### **Section 11. Standards governing the use of simulators**

All Maritime Higher Education Institutions shall comply with the minimum standards and guidelines governing the use of simulators pursuant to Regulation I/12, Section A-I/12 and Section B-I/12 of the STCW Code, as amended. The



simulators must have the necessary functions that will enable the demonstration of the competence required.

## **Section 12. Shipboard Training**

The Policies, Standards and Guidelines governing the seagoing service requirement is embodied under CMO No. 20, series of 2014 entitled "Revised Implementing Guidelines on the Approved Seagoing Service Requirement for the Conferment of the Degree in Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering Programs" and STCW Circular No. 2014-02 entitled "Daily Journal of Bridge Watchkeeping Duties and Daily Journal of Engine Room Watchkeeping Duties".

## **Section 13. Program of Study**

MHEIs are expected to develop their own program of study based on the mapping of courses in **ANNEX A** provided that all prescribed courses/competences under the STCW are offered and complied with and pre-requisites and co-requisites are observed.

## **Section 14. Review, Revision and Approval of the Curriculum**

MHEIs shall review the BSMT and BSMarE curriculum and the corresponding course syllabi at least once a year and shall incorporate in its Quality Management System the procedures to undertake such review, guided by the following:

### **14.1 Review and Revision**

1. The review and revision of the curriculum and course syllabi shall aim towards continuing improvement of the program;
2. Such review and revision shall consider alignment with STCW as amended and other international conventions as well as new laws, rules and regulations as well as the needs of industry; current trends and practices; and such other factors or considerations as may be applicable;
3. Any revision made on the curriculum and course syllabi must be clearly and properly identified and presented for purposes of evaluation and approval;

### **14.2 Submission of the proposed revised Curriculum/Course Syllabi**

1. Any proposed revision that affects the minimum requirements of the curriculum and/or course syllabi shall be submitted in duplicate copies at least one semester before the proposed implementation, to CHED Maritime Education Section (MES), Division of Programs with International Conventions, Office of Programs and Standards Development for approval;



2. However, any proposed revision that does not affect the minimum requirements of the curriculum and/or course syllabi shall be submitted in duplicate copies at least one semester before the proposed implementation, to CHED-MES for information;
3. The proposed revised curriculum/course syllabi shall be duly supported with documentary evidence that it is aligned with the standards of STCW as amended and other international agreements and is in accordance with the needs of industry, current trends, practices, laws etc.

#### **14.3 Effectivity and implementation of the approved revised Curriculum/Course Syllabi**

1. A duly approved revised curriculum/course syllabi shall take effect and be implemented in the following academic year;
2. Such revised curriculum/course syllabi shall cover only the incoming freshmen although the MHEI is free to use the approved course syllabi for students in the other years.
3. A make-up plan or catch-up plan shall be implemented to affected students.

### **ARTICLE VII COURSE SPECIFICATIONS**

**Section 15.** The course specifications for the BSMT and BSMarE programs that meet the STCW standards as amended are contained in **Annex "B"** of this CMO.

### **ARTICLE VIII PROGRAM ADMINISTRATION**

#### **Section 16. 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 full-time Dean. However, if only one program is offered, the Dean may serve as concurrent department chair where appropriate. The Dean must be full-time in order to effectively carry out his/her functions and responsibilities as a dean.

#### **Section 17. Dean**



The dean shall have the following qualifications:

Professional Qualifications				Academic Qualifications	
Professional License	Seagoing Experience	Teaching Experience		Degree	Trainings
		Faculty	Supervisory capacity		
Management	24 months as management level officer	2 years	none	BSMT/BSMarE	6.09 & 3.12
Management	12 months as management level officer	3 years	1 year	BSMT/BSMarE and any Masters degree	6.09 & 3.12
Management	24 months as OIC	5 years	2 years	BSMT/BSMarE and any Masters degree	6.09 & 3.12
OIC	36 months as OIC	5 years	3 years	BSMT/BSMarE and any Masters degree	6.09 & 3.12

## Section 18. Department Chair/Head

### 18.1 BSMT

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

Professional Qualifications				Academic Qualifications	
Professional License	Seagoing Experience	Teaching Experience		Degree	Trainings
		Faculty	Supervisory capacity		
Management	12 months as management level officer	3 years	none	BSMT/BSMarE	6.09 & 3.12
Management	24 months as OIC	4 years	1 year	BSMT/BSMarE and any Masters degree	6.09 & 3.12





## 18.2 BSMarE

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

Professional Qualifications				Academic Qualifications	
Professional License	Seagoing Experience	Teaching Experience		Degree	Trainings
		Faculty	Supervisory capacity		
Management	12 months as management level officer	3 years	none	BSMT/BSMarE	6.09 & 3.12
Management	24 months as OIC	4 years	1 year	BSMT/BSMarE and any Masters degree	6.09 & 3.12

## Section 19. Faculty

**19.1** 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.

**19.2** Faculty members teaching **Professional Courses** shall be holders of relevant academic degree, valid MARINA License, experiences and credentials as follows:

Professional Qualifications				Academic Qualifications	
Professional License	Seagoing Experience	Teaching Experience		Degree	Trainings
		Faculty	Supervisory capacity		
OIC-NW	12 months as OIC-NW on seagoing ship over 500 GT	n/a	n/a	BSMT	6.09
OIC-EW	12 months as	n/a	n/a	BSMarE	6.09



	OIC-EW on seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more				
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**19.3** 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:

1. Appropriate Bachelor's degree in such allied fields;
2. Valid certificate of registration and/or PRC license of his/her profession; and
3. Certificate of completion of the "Training Course for Instructors" (IMO Model Course 6.09)

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

1. Be holders 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;
2. Have acquired appropriate guidance in instructional techniques involving the use of simulators; and
3. Have gained practical operational experience on the particular type of simulators being used. This requirement may be satisfied through a planned in-house training of the maritime higher education institution or the transfer of technology training by the simulator supplier

### **19. 5 Teaching Load**

The Dean shall be allowed to handle a maximum teaching load of not more than 12 hours a week while the Department Chair/Head shall be allowed a maximum teaching load of 18 hours a week.

A full-time faculty may be allowed a maximum teaching load of 24 units per semester but not more than 30 contact hours per week. However, a faculty member with a documented very satisfactory teaching performance may be allowed to handle additional six (6) hours per week.



**19.6** There shall be faculty manual containing information and policies on:

1. Hiring, retention, promotion and separation;
2. Functions and responsibilities;
3. Ranking system;
4. Evaluation;
5. Salary rates;
6. Faculty benefits; and
7. Code of conduct/ethics.

### **19.7 Faculty Development**

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

### **Section 20. Assessments and Assessors**

MHEIs shall institute a system and structure of assessment that will ensure the achievement of student competences to comply with STCW standards. The MHEIS shall designate qualified assessors for the various courses.

The Designated qualified assessors shall:

1. have an appropriate level of knowledge and understanding of the competence to be assessed
2. be qualified for the task for which the assessment is being made
3. have undergone training in:
  - 1) "Training Course for Instructors" (IMO Model Course 6.09)
  - 2) "Assessment, Examination and Certification of Seafarers" (IMO Model Course 3.12); and
  - 3) "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;
4. gained practical experience (e.g. teaching for at least one semester in the related subject or as assistant to an experienced assessor for at least one semester)
5. gained practical assessment experience on the particular type of simulator under the supervision and to the satisfaction of an experienced assessor for assessments involving the use of simulators.

### **Section 21. 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:

1. 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
2. Each department with laboratory/ies shall have full-time laboratory technician/s to maintain laboratory facilities;

## **Section 22. Grading System**

### **22.1 Bases for Grading**

The final grade or rating given to a student shall be based solely on his/her scholarly performance in any course. Any adjustment diminution to the final grade for co-curricular activities, attendance or misconduct shall not be allowed. Any final grade given to a student may be reviewed in accordance with institutional academic processes.

Scholarly performance shall be measured by any of the following:

1. Lecture Component
  - 1) Written Examinations
  - 2) Oral Examinations
  - 3) Research works
  - 4) Outputs such as project, portfolio, and others
2. Laboratory Component
  - 1) Scientific and Technical Experiments
  - 2) Demonstration of competences acquired

### **22.2 Requirements for promotion**

The promotion of a student from any curricular or component course towards graduation shall strictly comply with the conditions or requirements as follows:

1. A student shall be given the necessary academic credits toward the completion of, or graduation from a BSMT or BSMarE program, provided that he/she has enrolled in the program; has satisfactorily complied with the admission requirements, has faithfully and regularly attended classes, and has acquired the expected proficiency required in the curricular or component subject of the program.



2. A student shall be promoted or permitted to enroll in advanced or specialized courses provided that, he/she has satisfactorily passed the basic and pre-requisite course(s), except otherwise provided in this CMO, MORPHE or by the Commission.
3. A student shall earn academic credits for promotion towards graduation, provided he/she garners a final grade of at least fifty percent (50%) or its equivalent in curricular or component course, as determined by proper institution authorities on academics.
4. The scholastic records of every student shall be filed with the institution until the close of the next academic term, for reference or examination in case of any grievance or complaint.

### **22.3 Requirements for Grading**

The grading system for a student in curricular or component courses shall strictly comply with the conditions or requirements as follows:

1. No provisional, conditional or temporary final grade for any curricular or component course shall be given to a student.
2. In case a student fails to take a final examination or submit an academic requirement for completion of a course and that his/her scholastic performance is not sufficient to merit a final passing grade, an institution may, consistent with its academic policies, give the student a final grade which does not earn any academic credit nor indicates failure such as "NC" for "No Credit" or "NG" for "No Grade". Such a grade is permanent and cannot be subsequently changed. Provided however, that where the failure to take the final examination, or to submit the academic requirements, is due to excusable grounds, such as, sickness, emergency, or accident, the student may be given an incomplete mark or "INC". Provided further, that the institution allows special or completion examinations, or additional time for compliance of the requirements. In no case shall an incomplete or "INC" mark remain for more than one (1) academic year.
3. The passing standard shall be the grade of 50%. However, the institution may raise the passing standard. To get the percentile grade, the number of correct answers called raw score shall be divided by the total number of test points and multiplied by 100.

Percentage (%) is used in determining and expressing a student's raw scores in every examination. The table below shows a sample of the range of percentage marks and their corresponding equivalents.

Percentage Grade	Letter Grade	Descriptive Rating	Five Point	Remarks
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			Grading	
90 – 100%	A	Excellent	1	Meets minimum competence with exceptional score
80 – 89%	B	Very Good	1.5	Meets minimum competence with over and above average score
70 – 79%	C	Good	2	Meets minimum competence with above average score
60 – 69%	D	Satisfactory	2.5	Meets minimum competence with average score
50 – 59%	E	Pass	3	Meets minimum competence
0 – 49%	F	Fail	5	Does not meet the minimum competence

4. The transmutation of grades shall NOT be allowed.

### **Section 23. Library**

The library shall be administered by a professional librarian with a valid Professional Regulation Commission (PRC) ID. The number of librarians shall be based on enrollment as follows:

ENROLLMENT	LIBRARIAN REQUIRED
Below 1000 students	1 full-time librarian + 1 library staff
1001-5000 students	2 full-time librarian + 2 library staff
5001 or over	3 full-time librarian + 3 library staff

#### **23.1 Library Holdings**

##### 1. 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)

##### 2. 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.

##### 3. 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 within 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.

#### 4. Periodical Collection

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

### 23.2 Library Space

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

### 24.3 Networking

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

### Section 25. Carrying Capacity

The intake of students for all levels shall be computed with the following ratios in mind.

#### 25.1 For BSMT

FACILITIES AND EQUIPMENT RATIO	LABORATORY	AY 2015-2016	AY 2016-2017	AY 2017-2018
CHART ROOM: CHART TABLES		1:2	1:2	1:2
NAVIGATIONAL EQUIPMENT: MARINE SEXTANT		1:5	1:5	1:5
SHIP'S BRIDGE SIMULATOR		1:5	1:5	1:4
GMDSS/COMMUNICATION SIMULATOR		1:5	1:5	1:4
SEAMANSHIP ROOM: WORK		1:8	1:8	1:8



FACILITIES AND LABORATORY EQUIPMENT RATIO	AY 2015-2016	AY 2016-2017	AY 2017-2018
BENCHES			
SEAMANSHIP ROOM: VISES FOR SPLICING	1:2	1:2	1:2
SEAMANSHIP ROOM: PAINTING STAGE WITH RIGGING	1:6	1:6	1:6
SEAMANSHIP ROOM: BOATSWAIN'S CHAIR	1:5	1:5	1:5
PERSONAL PROTECTIVE EQUIPMENT	1:1	1:1	1:1
FACULTY RATIO FOR LECTURE	1:50	1:40	1:40
FACULTY RATIO FOR LABORATORY	1:25	1:20	1:20
SHIPBOARD TRAINING	40%	50%	60%
- % OF STUDENTS WITH CAR IN A SPAN OF 1 YEAR	students with CAR for 2015	students with CAR for 2016	students with CAR for 2017

### 25.2 For BSMarE

FACILITIES AND LABORATORY EQUIPMENT RATIO	AY 2015-2016	AY 2016-2017	AY 2017-2018
DRAWING TABLE	1:1	1:1	1:1
LATHE MACHINE	1:5	1:5	1:5
ELECTRIC ARC WELDING MACHINE	1:5	1:5	1:4
GAS WELDING	1:5	1:5	1:4
MARINE DIESEL ENGINE NON-OPERATIONAL (400kw)	1:8	1:8	1:8
<i>*for 750kw or more - ratio may be increased. However, 50kW diesel engine is the minimum size that can accommodate two (2) students.</i>			
STEAM PLANT	1:8	1:8	1:8
REFRIGERATION	1:6	1:6	1:6
PUMPS/COMPRESSORS/SEPARATORS	1:5	1:5	1:5
TEST INSTRUMENTS	1:1	1:1	1:1
TRAINING KIT/MODULE	1:5	1:5	1:4
MAIN SWITCHBOARD	1:5	1:5	1:5
PROCESS CONTROL SIMULATOR	1:5	1:5	1:4
ENGINE ROOM SIMULATOR (ERS)	1:5	1:5	1:4





<b>FACILITIES AND LABORATORY EQUIPMENT RATIO</b>	<b>AY 2015-2016</b>	<b>AY 2016-2017</b>	<b>AY 2017-2018</b>
<b>PERSONAL PROTECTIVE EQUIPMENT</b>	1:1	1:1	1:1
<b>FACULTY RATIO FOR LECTURE</b>	1:50	1:40	1:40
<b>FACULTY RATIO FOR LABORATORY</b>	1:25	1:20	1:20
<b>SHIPBOARD TRAINING</b>	40%	50%	60%
<b>- % OF STUDENTS WITH CAR IN A SPAN OF 1 YEAR</b>	students with CAR for 2015	students with CAR for 2016	students with CAR for 2017

The carrying capacity of BS maritime programs in recognized MHEIs shall be reviewed annually to facilitate changes in the number of enrollees depending on new investments in faculty recruitment and development, equipment, facilities and opportunities for supervised shipboard training.

## **ARTICLE IX FACILITIES AND EQUIPMENT**

### **Section 25. Institutional Sites and Buildings**

1. An MHEI shall own its institutional sites and buildings to conform with CHED standards, fire and building code and city/provincial ordinances. The institutional sites and buildings shall be equipped with adequate equipment, safety measures and procedures in the following:
  - 1) Fire escape
  - 2) Fire alarm systems
  - 3) Campus security force
  
2. Site/Building/Room Requirements shall include the following:
  - 1) Institutional site/lot
  - 2) Athletic field and/or gymnasium
  - 3) Administrative Offices (General or Executive Office, Registrar, Accounting, National Service Training Program (NSTP), Guidance/Placement office)
  - 4) Medical and dental clinic
  - 5) Toilets
  - 6) Canteen/cafeteria
  - 7) Faculty room
  - 8) Student lounge
  - 9) Library room
  - 10) Laboratory room
  - 11) Tool room
  - 12) Shipboard Training Office
  - 13) Research and Extension Office



14) Adequate facilities for swimming or MOA with service providers

### **Section 26. Classroom**

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

### **Section 27. Laboratory**

Laboratory rooms shall allow space appropriate to the size of the equipment and the number of students. It should be well-ventilated and well-lighted, contain the specific laboratory equipment and, where appropriate, adequate water supply is provided. The following laboratory rooms shall be made available:

#### **1. For BSMT**

- 1) Physics
- 2) Chemistry
- 3) Computer
- 4) Chart plotting
- 5) Bridge simulator covering RADAR-ARPA and ECDIS
- 6) Seamanship
- 7) GMDSS

#### **2. For BSMarE**

- 1) Physics
- 2) Chemistry
- 3) Computer
- 4) Engine Simulator
- 5) Machinery Room that can house the marine engine, refrigeration, electrical equipment, etc.
- 6) Machine shop

#### **3. Laboratory Equipment**

As a general policy, all laboratory equipment **except those stipulated in Section 10** 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 contained in **Annex C** of this CMO.

"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 a particular course so as to ensure their sufficient exposure to the equipment and attainment of the required competence level.



The institution shall provide the necessary audiovisual room and facilities with appropriate equipment in support of the teaching-learning process such as video, sound system, multi-media projectors, and others.

## **ARTICLE X RESEARCH AND EXTENSION**

### **Section 26. Organization**

MHEIs are expected to fulfill the three-fold functions of higher education institutions—teaching, research and extension. To carry out these functions, they shall designate a coordinator for research and extension.

### **Section 27. Research**

The faculty of MHEIs shall pursue research that reflects scholarship of application, integration, teaching, or, in exceptional instances, scholarship of discovery.

The faculty shall provide opportunities for all students to integrate research into required projects and activities (e.g. formulation of a navigation plan; formulation of a plan for the management of a marine environment, among others)

### **Section 28. Extension**

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

1. Annual extension services program
2. Annual extension services budget
3. Tracer study program
4. Proper documentation of all extension activities must be maintained

## **ARTICLE XI QUALITY STANDARDS SYSTEM**

All Maritime Higher Education Institutions shall comply with the minimum standards and guidelines governing a quality standards system pursuant to Regulation I/8, Section A-I/8 and B-I/8 of the STCW Code, as amended.

## **ARTICLE XII ADMISSION AND RETENTION**

Every MHEI shall establish a guidance system that will monitor the progress of the student's scholastic performance and personality development. Maritime institutions shall adhere to the following admission and retention criteria:

1. Student general admission requirements:



- 1) High School graduate
  - 2) Pass the admission test
    - a) IQ Test
    - b) Personality Test
    - c) Math, Science and English Aptitude Test
  - 3) Pass the Pre-Employment Medical Examination for seafarers following the requirements under Regulation I/9 of the STCW
2. Student general retention requirements:
- 1) MHEIs shall establish its retention requirements/policy duly documented in its Quality Standard System
  - 2) Pass the Pre-Employment Medical Examination for seafarers following the requirements under Regulation I/9 of the STCW

### **Article XIII**

#### **MISCELLANEOUS PROVISIONS**

##### **Section 29. 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 BSMT program pursuant to Section 61 of the MORPHE.

##### **Section 30. 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 31. 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 32. Transitory Provisions**

Upon approval of the CMO, the MHEIs shall immediately revise the curriculum to comply with the changes/revisions. The CHED-approved revised curriculum of the MHEIs shall take effect in School Year (SY) 2015-2016.




The MHEIs shall make sure, however, that the course program for the students who will complete the academic requirements by SY 2015-2016 or those who will be conferred with the BS degree by 2017 (1st year students who were enrolled in SY 2013-2014) shall cover the course specifications in Annex B of this CMO. The MHEIs may adjust or revise the curriculum of the affected students or design a make-up program for the lacking courses during the 2nd year and/or third year.

### **Section 33. Effectivity Clause**

This CMO shall take effect immediately upon approval of the Commission and 15 days after its publication in the Official Gazette or in a newspaper of general circulation.

Quezon City, Philippines, 15 May 2015.

For the Commission:



**PATRICIA B. LICUANAN, Ph.D.**  
Chairperson

