MINISTRY OF TRANSPORT

VIETNAM MARITIME UNIVERSITY

COURSE SYLLABUS

(Credit system, applied for 62th batch onwards)

MODE OF STUDY: FULL TIME

SPECIALIZATION: NAVIGATION

(Selected Educational Program)

MAJOR: MARINE SCIENCE AND TECHNOLOGY

CODE OF MAJOR: 7840106

HAI PHONG, 9/202

COURSE SYLLABUS

(Credit system, applies for Class of 62 onwards)

Code of major: **7840106** Major: Marine Science And Technology

Specialization: **Navigation**

Mode of study: **Full time**

Course duration: **4 years including seatime**

1. Training objectives

This program of study provides the in-depth knowledge and skills required to safely manage and operate vessels. Course content includes core marine engineering fundamental knowledge as well as advanced nautical science fundamental knowledge such as navigation and vessel handling, cargo handling. Besides, students gain skills, attitudes which are necessary for conceiving, designing, implementing, operating and evaluating ship operating procedures.

The program aims to train eligible candidates in becoming Deck Officers and Marine Masters on commercial vessels. Moreover, completing the course will enable students to graduate as a maritime professional to work in a wide variety of shore based jobs in maritime sector.

2. Learning outcomes

Code	Description	Vietnamese qualifications framework VQF	LoC
1	**DISIPLINARY KNOWLEDGE AND REASONING**		
	FOUNDATION KNOWLEDGE		
1.1	**KNOWLEDGE OF UNDERLYING MATHEMATICS AND SCIENCES**	K2- 3a	
1.1.1	Advanced Mathematics		**3.0**
1.1.2	Physics		**3.0**
1.2	**Knowledge of underlying Social Science & Humanities, Political Science and Law**	K2- 3a	
1.2.1	Political Theories (Basic principles of Marxism-		**2.5**

	Leninism)		
1.2.2	General Laws		**2.5**
1.3	**Knowledge of underlying Informatics and Management**	K3- 3a	
1.3.1	Basic Informatics (MOS –Microsoft Office Specialist)		**3.0**
1.3.2	Management		**3.0**
	CORE ENGINEERING FUNDAMENTAL KNOWLEDGE		
1.4	**Core engineering knowledge**	K1,K2,K3 - 3a,3b,3e,3j,3k	
1.4.1	Engineering Mechanics		**3.0**
1.5	**Fundamental marine science knowledge**	K1,K2,K3 - 3a,3b,3e,3j,3k	
1.5.1	Marine Engineering		**3.0**
1.5.2	Marine Electrical Systems		**3.0**
1.5.3	Ship Design		**3.0**
	ADVANCED ENGINEERING FUNDAMENTAL KNOWLEDGE		
1.6	**Advanced nautical science fundamental knowledge**	K1,K2,K3,K43a,3b,3e, 3j,3k	
1.6.1	Introduction to Nautical Science		**3.0**
1.6.2	Maritime Safe Working Practices		**3.5**
1.6.3	Basic Skills of Seamanship		**4.0**
1.6.4	Maritime Meteorology and Oceanography		**3.0**
1.6.5	Magnetic Compass		**3.5**
1.6.6	Colreg 72		**4.0**
1.6.7	International Law of the Sea		**3.0**
1.6.8	Maritime Law		**3.0**
1.6.9	International Legal Framework in Maritime Safety		**3.0**
1.6.10	Maritime Insurance		**3.0**
1.6.11	Terrestrial Navigation		**4.0**
1.6.12	Celestial Navigation		**3.5**
1.6.13	Navigational radio Equipment		**4.0**
1.6.14	Maritime radio - Communications		**4.0**

1.6.15	Navigational Electrical Equipment		**4.0**
1.6.16	Ship Handling		**4.0**
1.6.17	Ship Stability		**3.5**
1.6.18	Cargo Handling		**3.0**
1.6.19	Shipping Operation		**3.0**
1.7	**Knowledge & communications in foreign languages**		
1.7.1	English 1		**3.5**
1.7.2	English 2		**3.5**
1.7.3	English 3		**3.5**
1.7.4	Maritime English		**3.0**
2	**PERSONAL AND PROFESSIONAL SKILL AND ATTRIBUTES**		
2.1	**Analytic Reasoning and Problem solving**	S1 – 3e, 3k	
2.1.1	Problem identification and formulation		3.5
2.1.1.1	Data and phenomena analysis		3.5
2.1.1.2	Hypothesis analysis		3.5
2.1.2	Estimation and qualitative analysis		3.5
2.1.2.1	Understanding of the importance and limitations of problem		2.5
2.1.2.2	Analyzing the causes of problem		3.5
2.1.3	Analysis with uncertainty		3.0
2.1.3.1	Assimilating the uncertainties		2.0
2.1.3.2	Explaining the effect of uncertainties		3.0
2.1.4	Solution and recommendation		3.0
2.1.4.1	Providing problem solutions		3.0
2.1.4.2	Providing essential results of solutions and test data		3.0
2.1.4.3	Finding on discrepancies in results		3.0
2.2	**System thinking**	S1,S3 – 3b,3c,3j	
2.2.1	Thinking holistically		3.0
2.2.1.1	Understanding of a system, its function and behavior, and its elements		3.0

2.2.1.2	Trans-disciplinary approaches that ensure the system is understood from all relevant perspectives		3.0
2.2.2	Prioritization and focus		3.0
2.2.3.1	Identifying the interactions external to the systems, and the behavioral impact of the system		3.0
2.2.3.2	Identifying the interactions external to the systems, and the behavioral impact of the system		3.0
2.3	**Attitudes, thought and learning**	C1 – 3h,3j,3c	
2.3.1	Perseverance, urgency and will to deliver, resourcefulness and flexibility		3.0
2.3.1.1	Sense of responsibility for outcomes		2.5
2.3.1.2	Self-confidence, courage and enthusiasm		3.0
2.3.1.3	Determination to accomplish objectives		3.0
2.3.2	Critical thinking		3.0
2.3.2.1	Understanding of purpose and statement of the problem or issue		2.5
2.3.2.2	Proposing logical arguments (and fallacies) and solution		3.0
2.3.3	Lifelong learning and educating		3.0
2.3.3.1	Having the motivation for continued self-education		2.0
2.3.3.2	Developing the skills of self-education		3.0
2.4	**Ethics, equity and other responsibilities**	C1 – 3f, 3k	
2.4.1	Ethics, integrity and other social responsibilities		3.0
2.4.1.1	One's ethical standards and principles		2.5
2.4.1.2	Truthfulness		3.0
2.4.2	Professional behavior		3.0
2.4.2.1	Professional courtesy		3.0
3	**INTERPERSONAL SKILLS: TEAMWORK AND COMMUNICATION**		
3.1	**Teamwork**	S2, S3,S4, C1 – 3d	
3.1.1	Forming effective teams		3.0

3.1.1.1	Team roles and responsibilities		2.5
3.1.1.2	CoThe roles and responsibilities of individual team members		2.5
3.1.1.3	The strengths and weaknesses of the team and its members		3.0
3.1.2	Group activity		3.5
3.1.2.1	Goals and agenda		2.0
3.1.2.2	The planning and facilitation of effective meetings		3.5
3.1.2.3	Effective communication (active listening, collaboration, providing and obtaining information)		3.5
3.1.2.4	Positive and effective feedback		3.0
3.2	**Communications**	S3,S5 – 3g	
3.2.1	Written communication		3.5
3.2.1.1	Writing with coherence and flow		3.0
3.2.1.2	Writing with correct spelling, punctuation and grammar		3.0
3.2.1.3	Formatting the document		3.5
3.2.2	Electronic/ Multimedia communication		3.5
3.2.2.1	Preparing electronic presentations		3.0
3.2.2.2	The norms associated with the use of email		3.0
3.2.2.3	Communications by using navigational electronic equipment on board		3.5
3.3	**Communications in foreign languages**	S6 – 3g	3.5
3.3.1	Bandscore >= 450 in the TOEIC test		3.5
3.3.2	Maritime English		3.0
4	**CONCEIVING, DESIGNING, IMPLEMENTING AND OPERATING SYSTEMS IN THE ENTERPRISE, SOCIETAL AND ENVIRONMENTAL CONTEXT**		
4.1	**External, societal and environmental context**	K2,C1-3h,3j,3f,3c	
4.1.1	Roles and responsibility of engineers to society		2.0

4.1.1.1	Defining the goals and roles of the engineering profession		2.0
4.1.1.2	Defining the responsibilities of engineers to society		2.0
4.1.2	The historical and cultural context & developing a global perspective		2.0
4.1.2.1	The diverse nature and history of human societies as well as their literary, philosophical and artistic traditions		2.0
4.1.2.2	The internationalization of human activity		2.0
4.2	**Enterprise and business context**	K2,C1 – 3h, 3c, 3f	
4.2.1	Appreciating different enterprise cultures		2.0
4.2.1.1	Having awareness of the differences in process, culture, and discipline requirements in various enterprise cultures		2.0
4.2.2	Enterprise stakeholders		2.0
4.2.2.1	Determining the obligations to stakeholders		2.0
4.2.2.2	Differentiating the relationship between stakeholders (ship's owners, ship operators, cargo owners, v.v.)		2.0
4.3	**Conceiving of ship operation procedures**	K1,K3,K4,C1,C3-3a,3b,3f,3h	
4.3.1	Having awareness of the objectives and requirements of procedures		3.0
4.3.1.1	Understading of the objectives and requirements of procedures		2.0
4.3.1.2	Explaining the objectives and requirements of procedures		3.0
4.3.2	Defining function and structure of procedures to ensure that the objectives can be accomplished		3.0
4.3.2.1	Having awareness of necessary functions of procedures		2.0
4.3.2.2	Architectural form and structure of procedures		3.0
4.3.2.3	Explaining the definitions of execution and operation		3.0
4.4	**Designing ship operating procedures**	K1,K3,K4,C1,C3-3a,3b,3f,3h	

4.4.1	Design process		3.5
4.4.1.1	Designing general procedures		3.5
4.4.1.2	Applying general procedures into different real-life situations		3.5
4.4.1.3	Designing complete procedures		3.5
4.4.1.4	Proving response when requirements are changed		3.5
4.4.2	Utilization of knowledge in design		3.5
4.4.2.1	Applying technical and scientific knowledge		3.5
4.4.2.2	Utilization of engineering knowledge and proper procedures		3.5
4.4.3	Multidisciplinary design		3.0
4.4.3.1	Explaining procedures towards economic efficiency		3.0
4.4.3.2	Explaining procedures towards maritime safety		3.0
4.5	**Implementing ship operating procedures**	K1,K3,K4,K5,S1,S2,S3,S4,C1,C3,C5 – 3a,3b,3c,3d,3e,3k	
4.5.1	Designing an implementation plan		3.0
4.5.1.1	Generalizing the goals and requirements of the implementation		2.5
4.5.1.2	Generalization of the implementation: the arrangement of tasks in the group, coordination process		3.0
4.5.2	Implementation process		3.5
4.5.2.1	Implementation of deploying plan		3.5
4.5.3	Implementation management		3.5
4.5.3.1	Control of implementation performance and schedule		3.5
4.5.3	Quality assurance		3.5
4.6	**Evaluating ship operating procedures**	K1,K3,K4,K5,S1,S2,S3,S4,C1,C3,C5 – 3a,3b,3c,3d,3e,3k	
4.6.1	Monitoring and evaluating		3.0

4.6.1.1	Explaining the monitoring process		2.5
4.6.1.2	Explaining the monitoring as regards the requirements of procedures		3.0
4.6.2	Design and optimization of the operating procedures		2.5
4.6.2.1	Explaining the optimization of the operating procedures		2.5

Level of capacity and taxonomy of learning domains

Level of capacity (LoC)	**TAXONOMY OF LEARNING DOMAINS**		
	Cognitive (Knowledge) (Bloom, 1956)	**Affective (Attitude)** (Krathwohl, Bloom, Masia, 1973)	**Psychomotor (Skills)** (Simpson, 1972)
1. ***Know or experience***			1. Perception 2. Set
2. Get involved in and contribute to	1. Knowledge	1. Receiving phenomena	3. Guided response
3. Understand and explain	2. Comprehension	2. Responds to phenomena	4. Mechanism
4. Have practical and implementation skills	3. Application 4. Analysis	3. Valuing	5. Complex overt response 6. Adaptation
5. Lead and create	5. Synthesis 6. Evaluation	4. Organization 5. Internalizes values (characterization)	7. Origination

3. Career opportunities

Graduates will be eligible for positions within the national and international maritime industry, such sectors as:

- Shipping companies (Ratings, Deck officers and Marine Masters)
- Maritime administrations (Safety, Legal and Security), Port authorities, Ship agents, Pilots, Maritime insurance companies
- Offshore and energy companies

- Training & educational centers for maritime personnel
- Research institutions

4. Course content and structure

4.1. Principles of course design

The course is designed based on the principle that skills and attitudes are integrated into knowledge subjects. The integration is deployed by multidisciplinary and timely approaches.

4.2. The volume of knowledge, Skills and Capacity: 130 Credits

(Physical Education and National Defense Education are not included)

a. Foundation knowledge (English and Basic Informatics are not included): 19 Credits.

b. Core engineering fundamental knowledge: 09 Credits

c. Advanced nautical science fundamental knowledge: 84 Credits

d. Communocations in foreign languages: 18 Credits

4.3. Course structure

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
I. Non-credit subjects			**10**				
I.1. *Physical Education (non-credit)*			**2**				
I.2. *National Defense Education (non-credit)*			**8**				
FOUNDATION KNOWLEDGE			**19**				
1	18124	Advanced Mathematics	4	1.1.1	3.0	1	
2	18201	General Physics	3	1.1.2	3.0	1	
3	11401	General Laws	2	1.2.2; 2.4.1	2.5	1	
4	19106	Basic principles of Marxism-Leninism 1	2	1.2.1; 2.3.1; 2.3.2; 2.3.3; 2.4.1	2.5	1	
5	19109	Basic principles of Marxism-Leninism 2	3	1.2.1; 2.3.1; 2.3.2; 2.3.3; 2.4.1	2.5	2	19106
6	19201	Ho Chi Minh's Ideology	2	1.2.1; 2.3.1; 2.3.2; 2.3.3; 2.4.1	2.5	3	19106

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
7	19301	Revolutionary strategies of Vietnam Communist Party	3	1.2.1; 2.3.1; 2.3.2; 2.3.3; 2.4.1	2.5	4	19201
CORE ENGINEERING FUNDAMENTAL KNOWLEDGE			**9**				
1	18401	Engineering Mechanics	3	1.4.1	3.0	2	18124
2	12117	Marine Engineering	2	1.5.1	3.0	3	
3	13171	Marine Electrical Systems	2	1.5.2	3.0	2	
4	23126	Ship Design	2	1.5.3	3.0	2	
ADVANCED NAUTICAL SCIENCE FUNDAMENTAL KNOWLEDGE			**84**				
1	11121	Introduction to Nautical Science major	2	1.6.1; 2.3.1; 2.3.2; 2.3.3; 2.4.1; 2.4.2 3.1.1; 3.1.2; 3.2.1; 3.2.2;	3.0	1	
2	11103	Maritime Safe Working Practices	2	1.6.2; 2.3.1; 2.3.3; 2.4.2; 3.1.1; 3.1.2	3.5	2	
3	11123	Basic Skills of Seamanship	4	1.6.3; 2.4.2; 3.3.2	4.0	3	
4	11106	Maritime Meteorology and Oceanography	3	1.6.4; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2	3.0	3	
5	11107	Magnetic Compass	2	1.6.5; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 3.1.1;	3.5	3	

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
				3.1.2; 3.2.1; 3.2.2			
6	11111	Colreg 72	3	1.6.6; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1; 3.1.2; 3.3.2	4.0	6	
7	11124	Ship Stability	4	1.6.16; 2.1.1; 2.1.2; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.3.2	3.5	6	
8	11231	Terrestrial Navigation 1	3	1.6.11; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3	4.0	4	
9	11232	Terrestrial Navigation 2	4	1.6.11; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1; 3.1.2; 3.2.1; 3.2.2; 3.3.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1;	3.5	5	11231

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
				4.6.2			
10	11233	Celestial Navigation	3	1.6.12; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.5.1; 4.5.2; 4.5.3;	3.5	4	
11	11234	Maritime Radio-Communications	3	1.6.14; 2.1.1; 2.1.2; 2.1.3;2.1.4; 2.2.1;2.2.2; 3.1.1; 3.1.2; 3.2.2; 3.3.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2;	4.0	3	
12	11235	Marine Radio Equipment	5	1.6.13; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1; 3.1.2; 3.2.1; 3.2.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1; 4.6.2	4.0	5	11234
13	11236	Navigational Electrical Equipment	4	1.6.15; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1; 3.1.2;	4.0	6	

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
				3.2.1; 3.2.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1; 4.6.2			
14	11237	Cargo handling	4	1.6.17; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1.; 3.1.2; 3.2.1;3.2.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3;	3.0	7	11124
15	11238	Ship handling	5	1.6.18; 2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.2; 3.1.1; 3.1.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1; 4.6.2	3.0	7	
16	11402	International Law of the Sea	2	1.6.7; 2.4.1; 4.1.1; 4.1.2	3.0	3	
17	11465	Maritime Law	3	1.6.8; 2.4.1; 4.1.1; 4.1.2; 4.2.1; 4.2.2	3.0	4	

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
18	11449	International Legal Framework in Maritime Safe Working Practices	3	1.6.9; 4.1.1; 4.1.2; 4.2.1; 4.2.2	3.0	5	
19	11454	Maritime Insurance	3	1.6.10; 4.1.1; 4.1.2; 4.2.2	3.0	6	
20	11406	Shipping Operation	2	1.6.19; 4.1.2; 4.2.2	3.5	4	
21	11114	Maritime Applied Information Technology	2	1.3.1; 1.3.2	3.0	6	
22	11216	Weather Information - Onboard Reception and Analysis	2	1.6.4	3.0	5	
23	11218	Container Operation	2	1.6.17	3.0	7	
24	11104	Life-Saving equipments on board	2		3.0	7	
25	11125	Electronic Chart Display and Information System	2		3.0	7	
26	**11501**	Graduation practicing module	4	2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2; 2.3.1; 2.3.2; 2.3.3; 3.2.1; 3.2.2; 3.3.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1; 4.6.2	4.0	8	
GRADUATION MODULE (6/12)							
27	11502	Graduation thesis	06	2.1.1; 2.1.2; 2.1.3; 2.1.4; 2.2.1; 2.2.2;	4.0	8	

No.	Subject ID	Subject	Credit	Meet learning outcomes	LoC	Term	Prereq-uisites
				2.3.1; 2.3.2; 2.3.3; 3.2.1; 3.2.2; 3.3.2; 4.3.1; 4.3.2; 4.4.1; 4.4.2; 4.4.3; 4.5.1; 4.5.2; 4.5.3; 4.6.1; 4.6.2			
28	11221	Voyage Planning	2	1.6.11	4.0	8	
29	11215	Emergency Procedures Onboard Vessels	2	1.6.16	4.0	8	
30	11456	General Average	2		4.0	8	
COMMUNICATIONS IN FOREIGN LANGUAGES			18				
1	25111	English 1	5			1	
2	25112	English 2	5			1	
3	25113	English 3	5			2	
4	25458	Maritime English	3			2	

4.5. Matrix of subjects in terms of knowledge, skills and attitudes

TERM	Subject ID	Subject	Themes of learning outcomes and Level of capacity																																	
			2.1				*2.2*		*2.3*			*2.4*		*3.1*		*3.2*		*3.3*		*4.1*		*4.2*		*4.3*		*4.4*			*4.5*			*4.6*	
			2.1.1	**2.1.2**	**2.1.3**	**2.1.4**	**2.2.1**	**2.2.2**	**2.3.1**	**2.3.2**	**2.3.3**	**2.4.1**	**2.4.2**	**3.1.1**	**3.1.2**	**3.2.1**	**3.2.2**	**3.3.1**	**3.3.2**	**4.1.1**	**4.1.2**	**4.2.1**	**4.2.2**	**4.3.1**	**4.3.2**	**4.4.1**	**4.4.2**	**4.4.3**	**4.5.1**	**4.5.2**	**4.5.3**	**4.6.1**	**4.6.2**
1	19106	Basic principles of Marxism-Leninism 1							***T2***	***T2***	***T2***	***T2***																									
	19109	Basic principles of Marxism-Leninism 2																																			
	25111	English 1																***TU2***																		
	25112	English 2																***TU3***																		
2	19301	Revolutionary strategies of Vietnam Communist Party							***U2***	***U2***	***U2***	***U2***																									
	19201	Ho Chi Minh's Ideology							***TU3***	***TU3***	***TU3***	***TU3***																									
	25113	English 3																***T3.5***																		
	25458	Maritime English																***U3.5***	***T3***																		
	11121	Introduction to Nautical Science major	***I***	***I***	***I***	***I***	***I***	***I***					***IT2***	***IT2***	***IT2***	***IT2***	***IT2***	***I***	***I***	***IT2***	***IT2***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***	***I***
3	18124	Advanced Mathematics																																			
	18201	Physics																																			
	13171	Marine Electrical Systems																																			
	11103	Maritime safe working practices							***TU3***		***TU3***		***TU2***	***U2***	***U2***																						
	11402	International Law of the Sea										***U3***								***T2***	***T2***																
	11401	General Laws										***U3***	***TU3***																									
	23126	Ship Design																																			
4	18401	Engineering Mechanics																																			
	12117	Marine Engineering																																			
	11106	Maritime Meteorology	***T2***	***T2***	***T2***	***T2***	***T2***	***T2***		***TU3***																											

TERM	Subject ID	Subject	Themes of learning outcomes and Level of capacity																														
			2.1				2.2		2.3			2.4		3.1		3.2		3.3		4.1		4.2		4.3		4.4			4.5			4.6	
			2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2	2.3.1	2.3.2	2.3.3	2.4.1	2.4.2	3.1.1	3.1.2	3.2.1	3.2.2	3.3.1	3.3.2	4.1.1	4.1.2	4.2.1	4.2.2	4.3.1	4.3.2	4.4.1	4.4.2	4.4.3	4.5.1	4.5.2	4.5.3	4.6.1	4.6.2
		and Oceanography																															
	11234	Maritime Communications	*U2*	*U2*	*U2*	*U2*	*U2*	*U2*		*U3*				*U2*	*U2*	*U2*	*U2*		*TU2*					*T2*	*T2*	*T2*	*T2*	*T2*	*I*	*I*			
	11123	Basic Skills of Seamanship											*U3*	*U2*					*T2*														
	11454	Maritime Insurance																		*U2*	*U2*	*T2*	*T2*										
5	11235	Navigational Electronic Equipment	*T3*	*T3*	*T3*	*T3*	*T3*	*T3*		*T3*				*U2*	*U2*	*U2*	*U2*		*U2*					*U2*	*U2*	*U2*	*U2*	*U2*				*TU2*	*TU2*
	11465	Maritime Law										*U3*	*U3*							*U2*	*U2*	*TU2*	*T2*										
	11111	Colreg 72	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*			*U2*	*U2*				*TU3*														
	11231	Terrestrial Navigation 1	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*		*U3*														*T3*	*T3*	*T3*	*T3*	*T3*	*TU2*	*TU2*	*TU2*		
	11107	Magnetic Compass	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*						*T3*	*T3*	*T3*	*T3*																
	11216	Weather Information - Onboard Reception and Analysis																															
6	11232	Terrestrial Navigation 2	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*		*U3*				*U3*	*U3*	*U3*	*U3*		*TU2*					*U3*	*U3*	*U3*	*U3*	*U3*	*U2*	*U2*	*U2*	*U2*	*U2*
	11124	Ship Stability	*T3.5*	*T3.5*	*U3*	*U3*	*U3*	*U3*		*U3*									*TU2*														
	11233	Celestial Navigation																						*U3*	*U3*	*U3*	*U3*		*T3*	*T3*	*T3*		
	11236	Navigational Electrical Equipment	*U3.5*	*U3.5*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*			*U3*	*U3*	*T3.5*	*T3.5*							*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*T3*	*T3*
	11406	Shipping Operation																			*TU2*		*TU2*										
	11114	Maritime Applied Information Technology																															
7	11237	Cargo handling	*U3.5*	*U3.5*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*			*U3*	*U3*	*U3.5*	*U3.5*							*U3*	*U3*	*U3*	*U3*	*U3*					
	11238	Ship handling	*U3.5*	*U3.5*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*			*U3*	*U3*									*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*	*U3*
	11449	International Legal Framework in Maritime Safety																		*U2*	*U2*	*U2*	*U2*										

TERM	Subject ID	Subject	Themes of learning outcomes and Level of capacity																																
			2.1				*2.2*		*2.3*			*2.4*		*3.1*		*3.2*		*3.3*		*4.1*		*4.2*		*4.3*		*4.4*			*4.5*			*4.6*	
			2.1.1	**2.1.2**	**2.1.3**	**2.1.4**	**2.2.1**	**2.2.2**	**2.3.1**	**2.3.2**	**2.3.3**	**2.4.1**	**2.4.2**	**3.1.1**	**3.1.2**	**3.2.1**	**3.2.2**	**3.3.1**	**3.3.2**	**4.1.1**	**4.1.2**	**4.2.1**	**4.2.2**	**4.3.1**	**4.3.2**	**4.4.1**	**4.4.2**	**4.4.3**	**4.5.1**	**4.5.2**	**4.5.3**	**4.6.1**	**4.6.2**
	11104	Life-Saving equipments on board																																	
	11125	Electronic Chart Display and Information System																																	
	11218	Container Operation																							***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
8	11501	Graduation practicing module	***U3.5***	***U3.5***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***		***U3***	***U3***			***U3.5***	***U3.5***		***U3***					***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
	11502	Graduation Thesis	***U3.5***	***U3.5***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***		***U3***	***U3***			***U3.5***	***U3.5***		***U3***					***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
	11215	Emergency Procedures Onboard Vessels	***U3.5***	***U3.5***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***		***U3***	***U3***			***U3.5***	***U3.5***		***U3***					***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
	11221	Voyage Planning	***U3.5***	***U3.5***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***		***U3***	***U3***			***U3.5***	***U3.5***		***U3***					***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
	11456	General Average	***U3.5***	***U3.5***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***		***U3***	***U3***			***U3.5***	***U3.5***		***U3***					***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***	***U3***
	Bandscore >= 450 in the TOEIC test																																		

4.6. Students' capacity assessment

Term	Themes of learning outcomes and Level of capacity																													
	2.1				**2.2**		**2.3**			**2.4**		**3.1**		**3.2**		**3.3**		**4.1**		**4.2**		**4.3**		**4.4**			**4.5**			**4.6**	
	2.1.1	2.1.2	2.1.3	2.1.4	2.2.1	2.2.2	2.3.1	2.3.2	2.3.3	2.4.1	2.4.2	3.1.1	3.1.2	3.2.1	3.2.2	3.3.1	3.3.2	4.1.1	4.1.2	4.2.1	4.2.2	4.3.1	4.3.2	4.4.1	4.4.2	4.4.3	4.5.1	4.5.2	4.5.3	4.6.1	4.6.2
1							2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			2.0	2.0												
2							2.0	2.5	2.0	2.0	2.0	2.0																		
3							2.5	3.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0		2					2.0	2.0	2.0	2.0	2.0	***2.0***	***2.0***	***2.0***		
4	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0					2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.0	2.0	3.0	3.0		2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0
6	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.5		3.0	2.0	2.0		2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.5
7	3..5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5						3.5		3.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
8	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.5	3.5	3.5	3.5	3.0					3.0	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.0	2.5
Learning outcomes	**3.5**	**3.5**	**3.5**	**3.0**	**3.5**	**3.5**	**3.5**	**3.5**	**3.0**	**3.0**	**3.0**	**3.0**	**3.5**	**3.5**	**3.0**	**3.5**	**3.0**	**2.0**	**2.0**	**2.0**	**2.0**	**3.0**	**3.0**	**3.0**	**3.5**	**3.0**	**3.0**	**3.5**	**3.5**	**3.0**	**2.5**

4.7. Schedule

Term 1

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	19106	Basic principles of Marxism-Leninism 1	2	20	20			I	
2	19109	Basic principles of Marxism-Leninism 2	3	30	30			I	
3	25111	English 1	5	75				I	
4	25112	English 2	5	75				I	
		TOTAL	**15**						

Term 2

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	19201	Ho Chi Minh's Ideology	2	20	20			I	
2	19301	Revolutionary strategies of Vietnam Communist Party	3	30	30			I	
3	25113	English 3	3	45				I	
4	25458	Maritime English	5	75				I	
5	11121	Introduction to Nautical Science major	2	30				III	
		TOTAL	**15**						

Term 3

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	18124	Advanced Mathematics	4	60				I	
2	18201	Physics	3	45				I	

3	13171	Marine Electrical Systems	2	30				I	
4	11103	Maritime safe working practices	2	25	10			I	
5	11402	International Law of the Sea	2	30				I	
6	11401	General Laws	2	30				I	
7	23126	Ship Design	2	30				I	
		TOTAL	**17**						

Term 4

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	18401	Engineering Mechanics	3	45				I	
2	12117	Marine Engineering	2	30				I	
3	11106	Maritime Meteorology and Oceanography	3	40	10			I	
4	11234	Maritime radio Communications	3	35	20			I	
5	11123	Basic Skills of Seamanship	4	40	40			I	
6	11454	Maritime Insurance	3	45				I	
		TOTAL	**18**						

Term 5

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	11235	Marine radio Equipment	5	60	20			I	
2	11465	Maritime Law	3	30				I	
3	11111	Colreg 72	3	45				I	

4	11231	Terrestrial Navigation 1	3	38	14			I	
5	11107	Magnetic Compass	2	25	10			I	
6	11216	Weather Information - Onboard Reception and Analysis	2	30				I	
		TOTAL	**18**						

Term 6

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	11232	Terrestrial Navigation 2	4	40	10	x		I	
2	11124	Ship Stability	4	37		x		I	
3	11233	Celestial Navigation	3	40	10			I	
4	11236	Navigational Electrical Equipment	4	52	16			I	
5	11406	Shipping Operation	2	30				I	
6	11114	Maritime Applied Information Technology	2	20	20			I	
		TOTAL	**19**						

Term 7

No.	Subject ID	Subject	Credit	THE	EXP	ASM	PRO	Type	Prereq-uisites
1	11237	Cargo handling	4	45		x		I	
2	11238	Ship handling	5	45	30	x		I	
3	11449	International Legal Framework in Maritime Safety	3	45				I	
4	11218	Container Operation	2	30				I	

5	11215	Life-Saving equipments on board	2	25	10			II	
6	11125	Electronic Chart Display and Information System	2	23	14			I	
		TOTAL	**18**						

Term 8

No.	**Subject ID**	**Subject**	**Credit**	**THE**	**EXP**	**ASM**	**PRO**	**Type**	**Prereq-uisites**
Compulsory Course									
1	**11501E**	Graduation practicing module	4		120				
Elective									
1	11501	Graduation thesis	06					I	
2	11221	Voyage Plan	2	30					
3	11215	Emergency Procedures Onboard Vessels	2	30					
4	11456	General Average	2	30					
		TOTAL	**10**						

5. Subjects description