

Study program: Navigation and Waterborne Transport
 Fundamental domain: Engineering sciences
 Bachelor's field: Marine Engineering and Navigation
 Faculty: Navigation and Maritime Transport
 Academic degree: Bachelor of Science
 The duration of studies: 4 years
 Form of education: Full time studies

Year I (2024-2025)

COMPULSORY SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks							Credits points	Weeks	Credits points				
					C	S	L	P	SI	Exam form	Weeks							
1	Linear Algebra, Analytical and Differential Geometry 1 and 2	XN 1.1.1/1.2.1	DI	DF	1	1			22	C	2	2	1		33	E	3	
2	Descriptive Geometry	XN 1.1.2	DI	DF	1		1		22	C	2							
3	Chemistry	XN 1.2.2	DI	DF								2		1	33	C	3	
4	Mathematical Analysis 1 and 2	XN 1.1.3/ 1.2.3	DI	DF	2	2			69	E	5	2	2		69	E	5	
5	Computer programming and programming languages 1 and 2	XN 1.1.4/ 1.2.4	DI	DF	2		2		69	E	5	2		1	33	E	3	
6	Physics	XN 1.1.5	DI	DF	2		2		69	E	5							
7	Technical Drawing and Infographics	XN 1.2.5	DI	DF								2		1	33	C	3	
8	Seamanship 1 and 2	XN 1.1.6/ 1.2.6	DI	DD	2	1			33	E	3	2	2		44	E	4	
9	Basics of Navigation 1 and 2	XN 1.1.7/1.2.7	DI	DD	3	2	1		41	E	5	2	1	1	44	E	4	
10	Basics of Navigation 2 - Project	XN 1.2.8	DI	DD										1	36	P	2	
11	Maritime English 1 and 2	XN 1.1.8/ 1.2.9	DI	DS		2			22	C	2		2		22	C	2	
12	Physical Training and Sport 1 and 2	XN 1.1.9/ 1.2.10	DI	DC		1			11	A/R (C)	1		1		11	A/R (C)	1	
Total hours per week					13	9	6	0	358	5E+4C	30	14	9	4	1	358	5E+4C+1P	30
					28		25		57			28		25				5

Note: The number of hours of individual study/course/semester is calculated using the formula: SI = CP x 25 - 14 (C+S+L+P)
 DF - fundamental disciplines DD - Domain Disciplines DS - specialty disciplines DC - complementary disciplines DO - elective disciplines
 DF- optional disciplines

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OPTIONAL SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks								
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points	
1	English Language	XN 1.1.10/ 1.2.11	DF	DC		3				33	C	3		3			33	C	3
2	Individual Survival Techniques at Seal	XN 1.1.11	DF	DS		1				11	C	1							
3	Prevention and Fire Fighting - Advanced level	XN 1.1.12	DF	DS	2		2			19	C	3							
4	First Medical Aid	XN 1.2.12	DF	DS									1		1		22	C	2
5	Individual Protection and Social Responsibilities on Board	XN 1.2.13	DF	DS									1		1		22	C	2
6	Practical Seamanship (2 weeks x 28 hours)	XN 1.2.14	DF	DS													50	C	2
7	Volunteering	XN 1.1.13/ 1.2.15	DF	DC		1				36	C	2		1			36	C	2
Total hours per week					2	5	2	0	99		4C	9	2	4	2	0	163	5C	11
					9			7,07			8			11,64					

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Year II ((2024-2025))

COMPULSORY SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks							Semester I - 14 weeks							
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points	
1	Numerical Methods	XN 2.1.1	DI	DF	2		1		33	E	3								
2	Basics of Navigation 2	XN 2.1.2	DI	DD	2	1	1		44	E	4								
3	Basics of Navigation 2- Project	XN 2.1.3	DI	DD				1	36	P	2								
4	Electronics and Automation	XN 2.1.4	DI	DD	2	1			33	C	3								
5	Electrotechnics and Electric Machines	XN 2.1.5	DI	DD	2	1			58	E	4								
6	Maritime English 3 and 4	XN 2.1.6/ 2.2.1	DI	DS		2			22	C	2		2			22	C	2	
7	Physical Training and Sport 3 and 4	XN 2.1.7/ 2.2.2	DI	DC		1			11	A/R (C)	1		1			11	A/R (C)	1	
8	Mechanics	XN 2.1.8	DI	DD	2	1			33	C	3								
9	Ship Theory and Construction 1	XN 2.2.3	DI	DD								2	2			19	E	3	
10	Maritime Navigation Regulations - COLREG 1 and 2	XN 2.1.9/ 2.2.4	DI	DS	2	1			33	E	3	2	2			19	E	3	
11	Ship's Handling 1	XN 2.2.5	DI	DS								2	2			19	E	3	
12	Astronomy and Astronomical Navigation	XN 2.2.6	DI	DS								2	1			33	E	3	
13	Astronomy and Astronomical Navigation - Project	XN 2.2.7	DI	DS										1		36	P	2	
14	Estimated and Coastal Navigation	XN 2.2.8	DI	DS								2	1	1		19	E	3	
15	Applied informatics	XN 2.1.10	DI	DF	1		1		22	C	2								
16	Field Practice (3 weeks x 30 hours)	XN 2.2.9	DI	DD												10	C	4	
Total hours per week					13	8	3	1	325	4E+5C+1P	27	10	11	1	1	188	5E+3C+1P	24	
					25			23,21					23			13,43			

Note: The number of hours of individual study/course/semester is calculated using the formula: SI = CP x 25 - 14 (C+S+L+P)

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DF- optional disciplines

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ELECTIVE SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks								
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points	
Package A																			
1	Computer Aided Design	XN 2.2.10	DO	DD									1	1			47	C	3
2	Thermodynamics	XN 2.1.11	DO	DD	2	1			33	C	3								
3	Strength of Materials	XN 2.2.12	DO	DD									2	1			33	E	3
Package B																			
1	Radio Electronic and Naval Communication Equipment	XN 2.2.11	DO	DD									1	1			47	C	3
2	Mechanical Machining and Dimensional Control	XN 2.1.12	DO	DD	2	1			33	C	3								
3	Machine Parts and Components	XN 2.2.13	DO	DD									2	1			33	E	3
Total hours per week					2	1			33	1C	3	3	2	0	0	80	1E+1C	6	
					3			2,35					5			5,71			

OPTIONAL SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks								
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points	
1	English Language	XN 2.1.13/ 2.2.14	DF	DC		3			33	C	3		3			33	C	3	
2	Proficiency in Survival Craft and Rescue Boats Other than Fast Rescue Boats	XN 2.1.14	DF	DS	1		1		22	C	2								
3	Handling and Carriage of Dangerous Goods by Sea	XN 2.1.15	DF	DS	1		1		22	C	2								
4	Marine Pollution Prevention	XN 2.2.15	DF	DS								1		1		22	C	2	
5	Onboard Ship Training (9 weeks x 56 hours)	XN 2.2.16	DF	DS												100	C	4	
6	Volunteering	XN 2.1.16/ 2.2.17	DF	DC		1			36	C	2		1			36	C	2	
Total hours per week					2	4	2	0	113	4C	9	1	4	1	0	191	4C	11	
					8			8,07					6			13,64			

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COMPULSORY SUBJECTS

Year III (2024-2025)

No. crt.	Course title	Course code	Course categ	Course type	Semester I - 14 weeks							Semester II - 14 weeks						
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points
1	Ship Construction 2	XN 3.1.1	DI	DD	2	1			33	E	3							
2	Environment protection	XN 3.2.1	DI	DD								1	1			22	E	2
3	Maritime Meteorology and Hydrology 1 and 2	XN 3.1.2/XN 3.2.2	DI	DD	2	1			33	E	3	2	2			69	E	5
4	Colreg	XN 3.1.3	DI	DD	2	2			44	E	4							
5	Electronic Navigation	XN 3.1.4	DI	DS	2		2		44	E	4							
6	Radar Navigation 1 and 2	XN 3.1.5/XN 3.2.3	DI	DS	2		2		44	E	4	2		2		69	E	5
7	Cargowork 1	XN 3.2.4	DI	DS								2	1			33	E	3
8	Maritime Law international	XN 3.1.6/XN 3.2.5	DI	DD	2	1			33	E	3	1	1			22	E	2
9	Ship's Stability and Trim	XN 3.1.7	DI	DD	2	2			44	E	4							
10	ECDIS	XN 3.2.6	DI	DD								2		2		44	C	4
11	Maritime English 5 and 6	XN 3.1.8/XN 3.2.7	DI	DS		2			22	C	2		2			22	C	2
12	Practical Seamanship (3 weeks x 30 hours)	XN 3.2.8	DI	DS												75	C	3
Total hours per week					14	9	4	0	297	7E+1 C	27	10	7	4		356	5E+3 C	26
					27			21,21				21			25,42			

Note: The number of hours of individual study/course/semester is calculated using the formula: $SI = CP \times 25 - 14 (C+S+L+P)$

DF - fundamental disciplines DD - Domain Disciplines DS - specialty disciplines DC - complementary disciplines DO - elective disciplines
DF- optional disciplines

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ELECTIVE SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks							
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points
Package A																		
1	Global Maritime Distress and Safety System	XN 3.1.9	DO	DD	1		1		22	C	2							
2	Navigation in Special Conditions	XN 3.2.9	DO	DS								1		1		22	C	2
3	Orthodromic Navigation	XN 3.2.11	DO	DS								1	2			8	E	2
4	Ethics and academic integrity	XN 3.1.11	DO	DF		1			11	C	1							
Package B																		
1	Operational use of AIS	XN 3.1.10	DO	DD	1		1		22	C	2							
2	Navigation in Polar Areas	XN 3.2.10	DO	DS								1		1		22	C	2
3	Inland waterways navigation	XN 3.2.12	DO	DS								1	2			8	E	2
4	Research Deontology	XN 3.1.11	DO	DF		1			11	C	1							
Total hours per week					1	1	1	0	33			2	2	1	0	30		
					3				2,35	2C	3	5				2,14	1E+1C	4

OPTIONAL SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks							
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points
1	Safety and Security at Sea	XN 3.1.12	DF	DS	2		3		55	C	5							
2	English Language	XN 3.1.13/XN 3.2.13	DF	DC		3			33	C	3		3			33	C	3
3	Onboard Ship Training (9 weeks x 56 hours)	XN 3.2.14	DF	DS											100	C	4	
4	Volunteering	XN 3.1.14/XN 3.2.15	DF	DC		1			36	C	2		1		36	C	2	
Total hours per week					2	4	3	0	124			0	4	0	0	169		
					9				8,85	3C	10	4				12,07	3C	9

DEAN,
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COMPULSORY SUBJECTS

Year IV (2024-2025)

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks						Semester II - 14 weeks							
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points
1	Diploma exam	XN 4.2.1	DI	DS														
2	Practical training for writing the final thesis (2 weeks x 30 hours)	XN 4.2.2	DI	DS											240	E	10	
3	Naval instalations	XN 4.1.1	DI	DD	1	1			47	C	3							
4	Ship Management	XN 4.2.3	DI	DD								2	2			19	E	3
5	Maritime Insurance	XN 4.1.2	DI	DS	1	1			22	E	2							
6	Cargowork 2	XN 4.1.3	DI	DS	2	1	1		69	E	5							
7	Management of Ships Commercial Operations	XN 4.2.4	DI	DS								1	1			47	E	3
8	Terrestrial and Estimated Navigation 3	XN 4.2.5	DI	DS								2		1		33	E	3
9	Terrestrial and Estimated Navigation 3 - Project	XN 4.2.6	DI	DS										1		11	P	1
10	Voyage Planning and Execution	XN 4.2.7	DI	DS								1		2		8	E	2
11	Voyage Planning and Execution - Project	XN 4.2.8	DI	DS										1		11	P	1
12	Maritime English 7 and 8	XN 4.1.4/4.2.9	DI	DS		2			22	C	2					22	C	2
13	Entrepreneurship in shipping	XN 4.2.10	DI	DC								1	1			22	C	2
14	Management and Comunication	XN 4.1.5	DI	DC	1	1			47	E	3							
15	Audit and inspections on board ship	XN 4.1.6	DI	DD	2	1			58	E	4							
16	Intermodal transport systems' management	XN 4.1.7	DI	DD	2	1			58	E	4							
17	Bridge Team Management	XN 4.2.11	DI	DS								2		2		19	E	3
18	Port systems exploitation	XN 4.1.8	DI	DD	2	2			44	E	4							
19	Writing the final thesis (14 weeks x 4 hours)	XN 4.2.12	DI	DS												56	C	2
Total hours per week					11	10	1		367	6E+2C	27	9	6	5	2	548	6E+4C+2P	24
					22		26,21				22		39,14					

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 DF- optional disciplines

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ELECTIVE SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks							Semester II - 14 weeks								
					C	S	L	P	SI	Exam form	Credits points	C	S	L	P	SI	Exam form	Credits points		
Pachetul A																				
1	Naval machines	XN 4.1.9	DO	DD	2		1			33	C	3								
2	International Maritime Conventions and Organizations	XN 4.2.13	DO	DD																
3	Introduction to cyber security	XN 4.2.15	DO	DS									2	1			33	C	3	
Pachetul B																				
1	Naval machines and marine ecology	XN 4.1.10	DO	DD	2		1			33	C	3					33	C	3	
2	Community regulation regarding maritime transport	XN 4.2.14	DO	DD									2	1						
Total hours per week					2	0	1	0		33			2	1			33	C	3	
					3					2,35	1C	3	4			1	0	66	1C	6
													6					4,71		

OPTIONAL SUBJECTS

No. crt.	Course title	Course code	Course category	Course type	Semester I - 14 weeks							Semester II - 14 weeks								
					C	S	L	P	SI	Exam	Credits points	C	S	L	P	SI	Exam	Credits points		
1	Onboard practical training (10 weeks x 56 hours)	XN 4.2.16	DF	DS																
2	English Language	XN 4.2.17	DF	DC													100	C	4	
3	Volunteering	XN 4.1.11/4.2.18	DF	DC										3			33	C	3	
Total hours per week						1				36	C	2		1			36	C	2	
					0	1	0	0		36			0	4	0	0	169			
					1					2,57	1C	2	4					12,07	3C	9

DEAN,
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