Rector of C[redacted]rsity

CURRICULUM

Starting with academic year 2022-2023

Faculty: NAVAL ELECTROMECHANICS
Domain: NAVAL ENGINEERING AND NAVIGATION
Specialization ADVANCED ENGINEERING IN THE OFFSHORE OIL & GAS INDUSTRY
Academic degree: MSc
The duration of studies: 2 years
Form of education: full time

THE MISSION OF SPECIALIZATION

Engineers professionalization to acquire skills in the design, construction, assembly, operation, maintenance and repairing of specialized vessels and marine structures, machinery, facilities, systems and equipment specific to the offshore industry, competitive economy relevant standards, knowledge engineering and management having current and adequate view of the offshore industry and industry connections

GENERAL OBJECTIVES

Professionalization in marine engineering and navigation through specialized engineering skills and management aimed mainly offshore industry - marine structures, specialized ships, machinery, equipment, systems and specific equipment

SPECIFIC OBJECTIVES

Shaping engineer by completing specialized training and management aimed mainly offshore industry. Skills of research, development and innovation in marine engineering and navigation. Develop thematic dissertation with offshore industry. Preparation and examination of Dissertation

SKILLS

Professional skills

1. Skills and knowledge in the use and compliance with technical standards and specific technological and design, construction, installation, operation and maintenance of equipment, facilities, systems and equipment specific to the offshore industry, both offshore structures and vessels serving the offshore industry specific;
2. Skills and knowledge in specific activities flaw, breakdown, maintenance and repair of making specific industry offshore platforms on ships and marine structures;
3. Skills and knowledge in surveillance activities in operation and maintenance of equipment, facilities, systems and equipment specific for the offshore industry, on ships and marine platforms structures

Transversal skills

Specific skills and knowledge in management and marketing activities in the offshore industry. General skills in activities aimed at risk management, value engineering and quality analysis;
Skills and knowledge of safety rules and regulations, security and intervention to prevent pollution and protect the marine environment;
Preliminary intellectual skills training on the gradual approach of research, development and innovation claimed by further studies in the third cycle - doctoral current profession or the offshore industry.

I Requirements for obtaining the master diploma

120 credits at compulsory and optional disciplines

10 credits dissertation exam

Total: 130 credits

II. The structure of the academic year (in weeks)

	Teaching activities		Exam session			Practice	Vacation		
	Sem. I	Sem. II	Wint	Sum	Resits		Wint	Spring	Summ
Year V	14	14	3	3	3	-	2	3	10
Year VI	14	14	3	3	3	-	2	3	-

III. Number of class hours per week

Year	Sem I	Sem II
V	25	27
VI	26	26

IV. How to choose optional courses

Out of the two packages of optional subjects students will choose one that becomes compulsory. The content of optional packages shall be communicated by the specialized department: "Mechanical engineering"

V. Terms of enrolment into the next year. Conditions of promotion. Conditions of return

Under the regulation regarding students professional activity

VI.The graduation exam

Presentation of dissertation paper 10 – 15 July

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Year V

Compulsory subjects

Nr. crt	Course title	Course code	Course categ	Course type	Semester I - 14 weeks							Semester II - 14 weeks						
					C	S	L	P	SI	FV	PC	C	S	L	P	SI	FV	PC
1	Materials technology in offshore industry	IO 5.1.1	DI	DA	2	1	-	-	83	C	5	-	-	-	-	0	-	0
2	Construction technology in offshore	IO 5.1.2	DI	DS	2	1	-	-	83	E	5	-	-	-	-	0	-	0
3	Optimize techniques applied in offshore industry	IO 5.1.3	DI	DA	2	2	-	-	69	E	5	-	-	-	-	0	-	0
4	Management and marketing in the offshore industry	IO 5.1.4	DI	DA	2	1	-	-	83	C	5	-	-	-	-	0	-	0
5	Ships for the offshore oil & gas industry	IO 5.1.5	DI	DS	2	-	2	-	69	E	5	-	-	-	-	0	-	0
6	Practice I	IO 5.1.6	DI	DS	-	-	-	8	13	C	5	-	-	-	-	0	-	0
7	Fatigue strength of the offshore oil & gas structures	IO 5.2.7	DI	DS	-	-	-	-	0	-	0	2	2	-	-	69	E	5
8	Offshore Energy Systems	IO 5.2.8	DI	DA	-	-	-	-	0	-	0	2	-	2	-	69	E	5
9	Advanced design in offshore oil & gas industry	IO 5.2.9	DI	DA	-	-	-	-	0	-	0	2	-	2	-	69	E	5
10	Non-destructive testing in the offshore industry	IO 5.2.10	DI	DA	-	-	-	-	0	-	0	2	-	1	-	83	C	5
11	Underwater technologies	IO 5.2.11.	DI	DS	-	-	-	-	0	-	0	2	2	-	-	69	E	5
12	Practice II	IO 5.2.12	DI	DS	-	-	-	-	0	-	0	-	-	-	8	13	C	5
	Total hours (credit points) required per week DA=study discipline, DS=synthesis discipline				10	5	2	8	400	3E+3C	30	10	4	5	8	372	4E+2C	30
					25				28.571			27				26.571		

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

Free elective disciplines

Nr. crt	Course title	Course code	Course categ	Course type	Semester I - 14 weeks							Semester II - 14 weeks						
					C	S	L	P	SI	FV	PC	C	S	L	P	SI	FV	PC
13	Cyber security	IO 5.1.13	DF	DC	2	-	2	-	19	C	3	-	-	-	-	0	-	
14	Volunteering	IO 5.1.2.14	DF	DC	14 weeks x1 hour/week					C(A/R)	2	14 weeks x1 hour/week					C(A/R)	2
	Total hours (credit points) required per week DA=study discipline, DS=synthesis discipline				2	0	2	0	19	0E+2C	5	0	0	0	0	0	0E+1C	2
					4				1.36			0				0.00		

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Assoc Prof. [redacted]

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Assoc Prof. Ph. D. Adrian SABĂU

Year VI

Compulsory subjects

Nr. crt	Course title	Course code	Course categ	Course type	Semester I - 14 weeks							Semester II - 14 weeks						
					C	S	L	P	SI	FV	PC	C	S	L	P	SI	FV	PC
1	Dynamic Positioning Operation and Maintenance Management	IO 6.1.1	DI	DS	2	-	2	-	44	E	4	-	-	-	-	0	-	0
2	Vibroacustic diagnosis of the offshore oil & gas structures	IO 6.1.2	DI	DA	2	-	1	-	83	E	5	-	-	-	-	0	-	0
3	Marine environment and offshore emergency management	IO 6.1.3	DI	DA	2	-	2	-	44	C	4	-	-	-	-	0	-	0
4	Advanced mathematics for engineers	IO 6.1.4	DI	DS	1	2	-	-	58	E	4	-	-	-	-	0	-	0
5	Risk Analysis and risk management	IO 6.1.5	DI	DS	2	1	-	-	58	E	4	-	-	-	-	0	-	0
6	Ethics and academic integrity	IO 6.1.6	DI	DA	1	-	-	-	86	C	4	-	-	-	-	0	-	0
7	Practice III	IO 6.1.7	DI	DS	-	-	-	8	13	C	5	-	-	-	-	0	-	0
8	Reability and diagnosis in offshore oil & gas industry	IO 6.2.8	DI	DA	-	-	-	-	0	-	0	2	1	2	-	80	C	6
9	Release technology submarine pipelines	IO 6.2.9	DI	DS	-	-	-	-	0	-	0	2	2	-	-	94	E	6
10	Maritime cyber security monitoring	IO 6.2.10	DI	DS	-	-	-	-	0	-	0	1	-	1	-	122	E	6
11	Practice Dissertation preparation	IO 6.2.11	DI	DS	-	-	-	-	0	-	0	-	-	-	8	38	C	6
12	Research Synthesis (Writing dissertation)	IO 6.2.12	DI	DS	-	-	-	-	0	-	0	-	-	-	7	52	C	6
	Total hours (credit points) required per week DA=study discipline, DS=synthesis discipline				10 26	3	5	8	386 27.571	4E+3C	30	5 26	3	3	15	386 27.571	2E+3C	30
	Dissertation Exam																1E	10

Free elective disciplines

Nr. crt	Course title	Course code	Course categ	Course type	Semester I - 14 weeks							Semester II - 14 weeks						
					C	S	L	P	SI	FV	PC	C	S	L	P	SI	FV	PC
13	Volunteering	IO 6.1,2.13	DF	DC	14 weeks x1 hour/week					C(A/R)	2	14 weeks x1 hour/week					C(A/R)	2
	Total hours (credit points) required per week DA=study discipline, DS=synthesis discipline				0 0	0	0	0	0 0	0E+1C	2	0 0	0	0	0	0 0	0E+1C	2

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Assoc Prof [redacted]

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BILANȚ GENERAL

	Nr. de ore	%	Nr. de credite	%	Standard ARACIS
Total discipline obligatorii	1456		120		
Discipline complementare (DC)	112		11		< 20%
Discipline de sinteză (DS)	980	67.31	71	59.17	
Discipline de aprofundare (DA)	476	32.69	49	40.83	
Discipline facultative (DF)	168		14		
Ore curs	490				
Ore aplicații (seminarii, lucrări de laborator, proiecte)	420				
Ore aplicative (seminarii, lucrări de laborator, proiecte, practică	966				
Ore practică incluzând practica pentru elaborarea lucrării de disertație	546				
Raport ore curs/ore aplicații (discipline integral asistate)	1.17				1/1 (±20%)

	Nr. ore		Total		Număr credite	
	An I	An II	ore	%	An I	An II
Activități integral asistate	504	406	910		50	43
Activități asistate parțial	224	112	336		10	17
Practica de specialitate		112	112			
Practica pentru elaborarea disertației		112	112			6

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