## **TECHNICAL UNIVERSITY OF VARNA**



Ratified by:	
Rector	

/Prof. Rosen Vasilev, PhD/

## **CURRICULUM**

Professional orientation: TRANSPORT, NAVIGATION AND AVIATION

Educational and qualification degree: MASTER

Programme: NAVIGATION

Professional qualification: ENGINEER-NAVIGATOR

Form of study: FULL - TIME

Term of study: 1.5 YEARS / 3 SEMESTERS

For holdersof educational and qualificational degree "Bachelor" in speciality "Navigation"

	-	Forms of assessment Weekly auditorium load							ts	ts				
		í	asses	smer	t		1					Unsupervised load	Whole load of students	ş
er		ē	ter	ect			Seminars			Laboratory Exercises	_	)ed l	of stu	ECTS credits
Number	Subject Name	ms	Inter-semester Evaluation	Course project	Accepted	Lectures	ر اد	ject	ent	Exe	Total load	ervis	o pe	Sci
Z		Exams	r-sel valu	rse	ecce	ect	Seminar Exercises	e pro	uul	tory	otal	dns	e lo	SCT
			Inte	Cou	⋖		Seminar Exercises	Course project	Assignment	bora	Ĕ	ü	Vhol	
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Voyage Planning and Execution		*			30				15	45	90	135	5
2	Accuracy of Navigational Observations	*				30				15	45	60	105	4
3	Course Setting and Determining Systems		*			15				30	45	45	90	3
4	Collision Regulations, part 3				*					30	30	30	60	2
5	Ship Maneuvering Control	*				15				15	30	30	60	2
6	Forecasting Weather and Oceanographic Conditions for Navigation		*			30	15				45	45	90	3
7	Control of Cargo Handling Operations and Ships's	*				30	0			30	60	60	120	4
	Stability	•				30	U				00	00	120	•
8	Operation of Ship Power Plant System				*	30				15	45	45	90	3
9	Cargo Handling and Stowage	*				30	30				60	75	135	5
	Total for the 1 semester:	4	3	0	2	210	45	0	0	150	405	480	885	31
	Ship Handling in Emergencies	4	3	0	2	<b>210</b> 15	45	0	0	150	<b>405</b> 15	15	<b>885</b> 30	<b>31</b>
		*	_	0	2		<b>45</b> 15	0	0	150				
11 12	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions	-	_	0	2	15		0	0	150	15	15	30	1 4 4
11 12 13	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations	*	_	0	*	15 15	15	0	0	150	15 30	15 75	30 105	1 4 4 1
11 12 13	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions	*	_	0		15 15 15	15	0	0	<b>150</b>	15 30 30	15 75 75	30 105 105	1 4 4 1 2
11 12 13 14	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations	*	*	0		15 15 15 15	15	0	0		15 30 30 15	15 75 75 15	30 105 105 30	1 4 4 1 2 3
11 12 13 14 15 16	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance	*	*	0		15 15 15 15 15	15 15	0	0		15 30 30 15 30	15 75 75 15 30	30 105 105 30 60	1 4 4 1 2
11 12 13 14 15 16	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations	*	*	0	*	15 15 15 15 15 15	15 15	0	0	15	15 30 30 15 30 30	15 75 75 15 30 45	30 105 105 30 60 75	1 4 4 1 2 3
11 12 13 14 15 16 17	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance	*	*	0	*	15 15 15 15 15 15 15 30 30	15 15 15 30	0	0	15	15 30 30 15 30 30 45 60	15 75 75 15 30 45 45	30 105 105 30 60 75 90 120	1 4 4 1 2 3 3 4
11 12 13 14 15 16 17	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management	*	*	0	*	15 15 15 15 15 15 15 30	15 15 15	0	0	15	15 30 30 15 30 30 45	15 75 75 15 30 45 45	30 105 105 30 60 75 90	1 4 4 1 2 3 3
11 12 13 14 15 16 17	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew	*	*	0	*	15 15 15 15 15 15 15 30 30	15 15 15 30	0	0	15	15 30 30 15 30 30 45 60	15 75 75 15 30 45 45	30 105 105 30 60 75 90 120	1 4 4 1 2 3 3 4
11 12 13 14 15 16 17 18	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management	*	*	0	*	15 15 15 15 15 15 15 30 30	15 15 15 30 30	0	0	15	15 30 30 15 30 30 45 60	15 75 75 15 30 45 45 60	30 105 105 30 60 75 90 120	1 4 4 1 2 3 3 4
11 12 13 14 15 16 17 18	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management Shipboard Damage Control	*	*	0	*	15 15 15 15 15 15 15 30 30 30	15 15 15 30 30 30	0	0	15	15 30 30 15 30 45 60 60	15 75 75 15 30 45 45 60 60	30 105 105 30 60 75 90 120 120	1 4 4 1 2 3 3 4 4
11 12 13 14 15 16 17 18	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management Shipboard Damage Control Damaged Ship Stability and Safety	*	*		*	15 15 15 15 15 15 30 30 30 30	15 15 15 30 30 30 15			15	15 30 30 15 30 30 45 60 60 30	15 75 75 15 30 45 45 60 60	30 105 105 30 60 75 90 120 120 120 60	1 4 4 1 2 3 3 4 4 4 2
11 12 13 14 15 16 17 18	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management Shipboard Damage Control Damaged Ship Stability and Safety	* * *	*		*	15 15 15 15 15 15 30 30 30 30	15 15 15 30 30 15 150			15	15 30 30 15 30 30 45 60 60 30	15 75 75 15 30 45 45 60 60	30 105 105 30 60 75 90 120 120 120 60	1 4 4 1 2 3 3 4 4 4 2
11 12 13 14 15 16 17 18	Ship Handling in Emergencies Ship Handling in Narrow and Shallow Waters Ship Handling in Various Conditions Coordination of SAR Operations Ensuring Safety of Navigation Safety of Cargo Handling Operations Ship Repair and Maintenance International Maritime Conventions Leadership Skills, Personal Safety and Crew Management Shipboard Damage Control Damaged Ship Stability and Safety  Total for the 2 semesters:	* * * * 4	* * * * 4	0 0	* * * * * * 5	15 15 15 15 15 15 30 30 30 30 15 225	15 15 15 30 30 15 150	0	0	15 15 30	15 30 30 15 30 45 60 60 30 405	15 75 75 15 30 45 45 60 60 30 <b>510</b>	30 105 105 30 60 75 90 120 120 120 60 <b>915</b>	1 4 4 1 2 3 3 4 4 4 2 32

Number	Subject Name	Exams	Inter-semester Evaluation	Course project	Accepted	Lectures	Seminar Exercises	Course project was	Assignment <sup>3</sup>	Laboratory Exercises	Total load	Unsupervised lo	Whole load of stud	ECTS credits
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Facultative Subjects						1							
1	Radar, ARPA, Bridge Teamwork, Search and Rescue at Management Level	3				10				30	40	40	80	3
2	Bridge Resource Management and Teamwork	3				20				20	40	40	80	3
3	Navigation with ECDIS & AIS	3				22				20	42	58	100	4
4	Specialised Maritime English	3								45	45	45	90	3
5	Application of Ship Management Software	3				15				45	60	60	120	4

Types of graduation	Semester	Unsupervised load	ECTS credits
Preparation of Diploma Thesis	2	375	15
Defense of Diploma Thesis	3	3/5	15

## Notes:

The cirriculum is valid for the training in Bulgarian and English

## Approved by the Academic Board of TU-Varna:

Protocol № 17 / 19.12.2016 г.

Modified with Protocols: Nº 23/25.09.2017 г., Nº 34/29.10.2018 г.

Valid from 2018/2019 academic year

The weekly plan of the lessons is fixed according to the Academic Board "Structure of the Learning Process" adopted for the current academic year.

Head of Department:	Dean of Faculty:
/Assoc. Prof. B. Dyakov, PhD/	/Assoc. Prof. I. Hadzhidimov, PhD

Executive Director of Executive Agency "Maritime Administration":
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