Module Handbook and Bibliography Nautical Science and Maritime Transport

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Qualification goals of the Nautical and Maritime Studies programme

The qualification objectives in the Nautical and Maritime Studies programme are written in such a way that at the end of their successful studies, students are awarded not only the university degree of Bachelor of Science but also the certificate of competency as an officer of the watch without restrictions for seagoing vessels. Graduates will then have a broad and interdisciplinary knowledge and understanding of the scientific interrelationships of the nautical/maritime subject area. A minimum standard for the training of seafarers is bindingly prescribed by the IMO (International Maritime Organisation) and has also been transposed into German law. Some of the technical, application, methodological and social competences are derived from the STCW Convention in its current version. These largely cover the qualification goals for qualified gainful employment.

Scientific aptitude:

Scientific skills are taught in the modules in the basic studies as well as in the modules in the main studies and the elective subjects for in-depth study.

In the individual subject-specific modules, the subject-specific and scientific requirements are addressed with the aspects of knowledge and understanding (knowledge dissemination, knowledge deepening and knowledge understanding), use, application and generation of knowledge (use and transfer, scientific innovation), communication and cooperation as well as scientific self-conception/professionalism, and in the Bachelor's thesis, the students have the opportunity to prove their subject-specific and scientific competence.

Ability to take up qualified gainful employment:

Graduates have analytical and problem-solving skills including the ability to think in networks - it is about the use, application and generation of knowledge - in the following fields of competence:

- Ship's command

- Planning and implementation of a trip as well as determination and evaluation of the position,
- walking a safe bridge watch,
- Application of radar and ARPA equipment to maintain the safety of navigation,
- Application of electronic chart display and information systems (ECDIS) to maintain maritime safety,
- appropriate response to emergency situations and distress signals at sea,

- Application of IMO standard maritime terminology and use of spoken and written English,
- Sending and receiving messages by optical signalling,
- Ship manoeuvres and the understanding of basic hydrodynamic relationships,
- Understand and evaluate weather forecasts and oceanographic conditions.

- Cargo handling and stowage

- Supervision of loading, stowing, securing and discharging as well as looking after the cargo during the voyage,
- Inspection and assessment of cargo holds, hatch covers and ballast tanks and reporting of defects and damage to them and the cargo,
- Knowledge of the regulations governing the carriage of dangerous goods,

- Control of the ship's operation and care for the persons on board

- Knowledge of pollution prevention regulations and ensuring compliance,
- Maintenance and assessment of the seaworthiness of the ship,
- Fire prevention planning and management,
- Use of rescue equipment,
- Use medical first aid on board,
- Monitoring legal regulations,
- Understand and apply the fundamentals of shipbuilding and the theories and factors that influence and evaluate trim and stability,
- Knowledge of international maritime law in the form of international treaties and conventions,

- Radio traffic

- Sending and receiving messages using GMDSS equipment

The qualification objectives are taught to match the targeted level of responsibility (management level and company level). In the module descriptions, reference is made to the corresponding qualification that the module contains according to STCW.

Empowerment for social engagement and personality development:

Learning, social and key competences are integrated to a certain degree in each module. In relation to the key qualifications and the qualification goals regarding personality development, the social credit points are particularly noteworthy. Students are enabled to take on management positions in ship operations. Intercultural aspects are also integrated here. The ability to work in a team is taught. Due to the markedly international character of the shipping industry, it is an important concern of the department to provide its students with access to other cultures in addition to good English language skills (seminars, electives). Students are guided and enabled to professionalise future professional and social actions and communication - with a view to an international environment - and to critically reflect on their own actions.

The Bachelor's degree programme Nautical Science and Maritime Transport prepares students for nautical management positions on board ships and for management positions in maritime business and administration.

The qualifications and course content taught in the degree programme go far beyond the

nautical competences required in the STCW and, by choosing a study profile, prepare students intensively for later employment in the nautical secondary labour market.

Notes on the manual

All modules with a number in the "Semester" field are offered every semester. The degree programme is launched in SoSe and WiSe. From 2022, the SoSe will start in English and the WiSe in German. Thus, all compulsory lectures are offered every semester, once in English and once in German. The lecturer will inform the students at the beginning of the semester in which language the lectures will be held. The following rule applies for the time being:

Lectures SoSe: 1st semester English (from 2022), 3rd semester English (from 2023), 5th semester English (from 2024)

Lectures WiSe: 4th semester English (from 2023), 6th semester English (from 2024), 8th semester English (from 2025)

In order to reflect German maritime law according to BSH requirements in German, the lectures on commercial private law and public maritime law are always read in German.

Participation in these German-language lectures is open to students who can demonstrate a German language competence of at least B2.

Otherwise, for a lecture taught and examined in German, German language proficiency is required accordingly:

- German Language Examination for University Entrance Level 2 (DSH 2) or
- Test German as a Foreign Language Level 4 in all four areas (TestDaf)

demanded.

Profile modules are often borrowed from the Maritime Technology and Shipping Management degree programme and are offered either in the summer or winter semester. This is then noted in the "Semester" field.

Bibliography

Following the module handbook, there is a bibliography for each module that teaches STCW competences. In order to keep the list handy, we have omitted references to the IMO regulations, scientific publications and journals.

Modules for the Bachelor's degree programme B.Sc. in Nautical Science and Maritime Transport

Module	**Occupational safety**				
Meta module			Type **Compulsory elective module**	ECTS	5
Responsible	**Meyer**			SWS	4
Prerequisites				Self-study hours	53
Profile	**Maritime Safety and Quality Management**			Attendance hours	72
Exam type	K2/ R	Nautical science ✓ MTSM ✓		German ✓	English
Form of examination attendance				PL	Compulsory
Semester	5./6./8.	Offer WS	Basic studies	Specialised studies ✓	

Qualification goals	By successfully completing this module, students will be able to - Understanding and applying the basics of occupational safety - Understand and apply the basics of occupational health and safety - Understand and apply the basics of workplace health promotion - Work with the basics taught at planning and application level
Course content	Teaching the essential contents of occupational safety, health and safety at work and of health protection, taking into account the special criteria in the maritime industry (=> safety on board ships): - Safety and health protection - Basics of occupational health and safety - Understanding the role and tasks of the occupational safety specialist - Hazard factors and health-promoting factors - Determining and assessing hazards - Determining targets for safe working conditions and healthy working systems - Fundamentals of work system design (requirements for work equipment and workplaces, workplace design and work tasks, Work organisation, working hours and breaks, personal protective equipment. Qualification and behaviour, occupational health aspects and measures of health promotion) - Search for solutions, implementation and realisation of occupational safety measures, Impact monitoring - Integration of occupational health and safety into the company organisation - Role and tasks in the planning and conceptual field - Preventive action for work system design - Occupational health and safety management
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Meyer	4	Occupational Safety	V + EXERCISE

Module	**Astronomical Navigation**				
Meta Module	**Navigation 2**	Type	**Compulsory module**	ECTS	**5**
Responsible	**Kreutzer**			SWS	**4**
Prerequisites	**recommended: Navigation 1, PO compulsory: Practical semester 1**			Self-study hrs.	**53**
Profile				Attendance hours	**72**
Type of examination	**K2**	Nautical science ✓		MTSM ✓	German ✓
English ✓					
Form of examination				**PL**	Compulsory
attendance					
Semester **4.**	Offer **SS/WS**		Basic studies		Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
- use the sextant to determine a location.
- Know navigationally important celestial bodies and their movement.
- Display astronomical coordinate systems.
- apply methods of astronomical localisation.
- Apply methods of astronomical compass control.
- apply methods of great circle navigation including mixed sailing and the relevance of navigational conditions in relation to the weather and Recognise ice layers.

The following key competences are consolidated: Ability to analyse, Willingness to learn, perseverance, independence, abstract and networked thinking,

Teaching content

The lecturer teaches the students:
- Navigationally important celestial bodies and their movement
- Astronomical coordinate systems
- Methods of astronomical localisation
- Methods of astronomical compass control
- Cutlery calculation according to centre width and increased width
- Great circle navigation methods

Capability Table A-II/1

Planning and realisation of a voyage and determination of the position; walking a safe bridge watch

Capability Table A-II/2

Voyage planning and execution of navigation; positioning and

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Tomaschek	4	Astronomical Navigation	V + EX

Module	**Auditing**				
Meta module		Type	**Compulsory elective module**	ECTS	5
Responsible	**Knoop**			SWS	4
Prerequisites				Self-study hours	53
Profile	**Maritime Safety and Quality Management**			Attendance hours	72
Exam type	K1+R	Nautical science✓	MTSM✓	German ✓	English✓
Form of examination attendance				PL	Compulsory
Semester	5./6./8.	Offer	SS	Basic studies	Specialised studies✓

Qualification goals	By successfully completing this module, students will be able to -categorise and differentiate between various forms of audit -Plan, carry out and analyse audits -Analyse audit results, identify problem areas, propose solutions develop -Develop, explain and evaluate corrective measures
Teaching content	The lecturer teaches the students -Terms and basics as well as legal aspects in the field of auditing -Forms of audit and their areas of application -Benefits of audits in QM -Process of an audit -Planning and evaluation of audits
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Knoop	4	Auditing	V + EX

Module	**Design and operation of marine engine systems**				
Meta module		Type	**Compulsory elective module**	ECTS	5
Responsible	**Meyer**			SWS	4
Prerequisites	**recommended: Basic studies**			Self-study hours	39
Profile	**Greenshipping/ Marine and Environmental Engineering**			Attendance hours	36
Exam type	K1 + H	Nautical science ✓	MTSM ✓	German ✓	English
Form of examination attendance				PL	Compulsory
Semester	5./6./8.	Offer	WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Evaluate ship propulsion concepts - Input variables and boundary conditions for the design of marine propulsion systems Rate - Selecting components for marine propulsion systems - Calculation methods for the design of the different Drive components apply
Teaching content	Preparation of energy balances for ship designs, design parameters of Editing motor systems, determining the design parameters of Drive system and power generator. Criteria for selecting suitable drive and Power generator concepts. Calculation/design of individual drive components and associated operating systems. Operation of an engine system under supervision. Carrying out engine tests with different load levels and operating states. Measurement of all relevant Operating parameters. Analysis of the measurement technology used, estimation of the achievable Measurement accuracies, creation of a measured value evaluation, interpretation of the Measurement results.
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Meyer	4	Design and operation of marine engine systems	V + Ü

Module	Bachelor thesis		
Meta module		Type Compulsory module	ECTS 12
Responsible	Bentin		SWS 3
Prerequisites	see BPO Nautics and Maritime Transport		Self-study hours 300
Profile			Attendance hours
Type of examination	BA	Nautical Science ✓ MTSM	German ✓
English ✓			
Form of examination attendance		PL	Compulsory
Semester 8.	Offer SS/WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - apply basic scientific methods to a specific task and thereby produce a targeted solution - critically evaluate the course of the investigation from a scientific point of view - correctly interpret the results found and their contribution to the solution assess - their skills in terms of self-management and time management when processing assess more complex tasks - identify the essential points of their scientific work and Communicate clearly
Teaching content	In discussions and discussions with the supervising professor and learnt the following contents in self-study: - find out the problem and deal with it by analysing the problem deal with - Strategy development with regard to the development and completion of a scientific work - Plan and adhere to personal time management - Literature research, including through the library's services - Structure of the topic - Planning and structuring the project - Interpretation, evaluation and visualisation of data and information - Scientific supervision of methods and procedures in the Research project - formal, linguistic and content-related aspects of writing essays and Investigation reports
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer methods	LVS	Course	Teaching and learning
	3	Bachelor thesis	

Module	BEP practice ship handling simulator		
Meta module		Type Compulsory module	ECTS 5
Responsible	Kreutzer		SWS 4
Prerequisites	see § 10 BPO		Self-study hours 53
Profile			Attendance hours 72
Exam type	B	Nautical science✓MTSM	German✓ English✓
Type of examination attendance			SL Compulsory✓
Semester	8.	Offer SS/WS	Basic studies Specialised studies✓

Qualification goals	- Application of the requirements for safe travel planning - Application of the principles of a safe sea watch in the context of work as a watch officer under normal conditions, as well as under rapidly changing Conditions - Knowledge of ship handling in exceptional situations - Application of emergency procedures (person overboard, SAR) - Application of the HELM (Human Element Leadership and Management) principles in the bridge team
Course content	- Navigating different types of ships in different wind and weather conditions Flow conditions - Ship handling as part of a sea watch - Sailing in the area, anchor manoeuvres, mooring and casting off manoeuvres - Emergency procedures incl. management of SAR manoeuvres - Working in the Bridge Team (Bridge Resource and Bridge Team Management, Leadership) - Complex travel planning
Capability Table A-II/1	Planning and realisation of a voyage and determination of the position; walking a safe bridge watch; use of radar equipment and ARPA systems for Maintaining the safety of shipping;; Use of electronic data transmission nautical chart display and information systems (ECDIS) for the maintenance of the Maritime safety; reactions to distress signals at sea; use of the IMO Standard phrases for seafaring and use of English in speech and writing; manoeuvring the ship; applying leadership skills and Ability to work in a team
Capability Table A-II/2	Voyage planning and execution of navigation; positioning and Accuracy; establishing procedures and arrangements for guard duty; Maintaining safe ship management through the use of data from Navigation devices and systems to support decision-making by the officer in charge of the watch;; maintaining safe navigation by Use of ECDIS and associated navigation systems for the Support for decision-making by the watch commander; prediction of meteorological and oceanographic conditions; reactions to Emergency situations when navigating the vessel; manoeuvring and handling a ship under all conceivable circumstances; operating the remote control for the drive system and for other machine-driven systems and Service facilities; monitoring and reviewing the fulfilment of legal requirements Regulations and measures to ensure the protection of human health life at sea, security and protection of the marine environment; Leadership and business management skills

Kreutzer	4	BEP practice ship handling, simulator	Ü

Module	**BEP Theory of ship handling, cargo handling and stowage**				
Meta module			Type **Compulsory module**	ECTS	8
Responsible	**Kreutzer**			SWS	4
Prerequisites	**see §10 BPO**			Self-study hours	128
Profile				Attendance hours	72
Exam type	**M/A + K4**	Nautical Science ✓ MTSM		German ✓	English ✓
Type of examination				**PVL + 2 x PL**	Compulsory attendance
Semester	**8.**	Offer	**SS/WS**	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - analyse and evaluate ship operations on board a seagoing vessel - understand the physical phenomena in the area of stability and ship handling and apply solution strategies for avoidance - evaluate complex situations, develop solution strategies and apply them in the operational ship management - plan the loading of a ship, prepare the safe transport and guarantee - the load computer, knowing the limits and authorisation conditions, serve - Carry out and evaluate complex travel planning
Teaching content	- Physical phenomena in the area of stability and strength - Load planning and cargo care - Load calculator - complex interrelationships of ship behaviour and manoeuvring in Bad weather, especially with regard to stability - Manoeuvring and navigation strategies/methods in safety-critical areas Situations - Navigation procedure
Qualification Table A-II/1	Supervision of loading, stowing, securing and unloading as well as supervision of the cargo during the voyage; inspection of cargo holds, hatch covers and ballast tanks and reporting defects and damage to them; Maintaining the seaworthiness of the ship; monitoring compliance legal regulations
Capability Table A-II/2	Planning and ensuring safe loading, stowing, securing and discharging of cargo and safe cargo handling during the voyage; assessment of of reported defects and damage to cargo holds, hatch covers and ballast tanks and taking appropriate measures for such cases; Transport of dangerous goods; influence on trim, stability and stress
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Bergmann	4	BEP Theory of ship management, cargo handling and	V + EXERCISE

Module	**Business Administration**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Heilmann**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science✓ MTSM✓		German✓	English✓
Form of examination				**PL**	Compulsory
attendance					
Semester	3.	Offer	SS/WS	Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - understand the basic economic interrelationships within the company, analyse and evaluate - organise, plan and implement management functions in maritime companies realise independently - independently acquire new knowledge and skills in the field of acquire the basics of business management - strengthen the following key competences: Ability to analyse, willingness to learn, Stamina Independence, flexibility
Teaching content	The lecturer teaches students the basics from the following areas: - Accounting - Accounting - Cost accounting - Financing - Investment - Legal forms - Specifics of maritime businesses and maritime markets - Basic principles of economics (price formation on markets)
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Heilmann	4	Business Administration	V + EXERCISE

Module	**Cargo Care**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Bergmann**			SWS	4
Prerequisites	recommended: Loading technology; PO compulsory: Practical semester 1			Self-study hrs.	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester 6.		Offer SS/WS	Basic studies	Specialised studies ✓	

Qualification goals	By successfully completing this module, students will be able to - load planning for dry cargo ships based on specific criteria carry out - the lifting gear required for cargo handling and Determine lifting gear - carry out a draft survey after the end of the charge to determine the amount of charge to determine
Teaching content	The lecturer teaches the students - Loading planning for ships with project cargo - Calculation of the necessary lifting gear and slings for the Heavylift - Handling, planning and monitoring of the handling process - Loading planning for container ships - Load planning and bulk carrier draught survey
Qualification Table A-II/1	Supervision of loading, stowing, securing and unloading as well as supervision of the cargo during the voyage; inspection of cargo holds, hatch covers and Ballast tanks and reporting of defects and damage to them
Capability Table A-II/2	Planning and ensuring safe loading, stowing, securing and discharging of cargo and safe cargo handling during the voyage; assessment of of reported defects and damage to cargo holds, hatch covers and ballast tanks and taking appropriate measures for such cases; Influencing trim, stability and stress
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Bergmann	4	Cargo Care	V + Ü

Module	**Energy-efficient ship management**		
Meta module		Type **Compulsory elective module**	ECTS **5**
Responsible	**Vahs**	SWS	**4**
Prerequisites		Self-study hours	**53**
Profile	**Greenshipping/ Ship and Environmental Technology; Shiphandling**	Attendance hours	**72**
Exam type	**K2/H**	Nautical Science ✓ MTSM	German ✓ English ✓
Form of examination attendance		**PL**	Compulsory
Semester	**5./6./8.**	Offer	Basic studies Specialised studies ✓

Qualification goals

By successfully completing this module, students acquire the following skills the following competences:
- Understanding the relationships between navigation decisions and energy consumption, the influence of weather on safety and energy consumption, and the effect of a wind drive on fuel consumption and other factors.
Ship parameters.
Ship efficiencies.
- Describe physical effects on sails and hull.
- Carry out route optimisation for a ship with sail propulsion.
- Ability to plan and monitor journeys using modern technical procedures (in particular ECDIS and weather routing).
- Advanced voyage planning skills using nautical charts and nautical tables Publications.
- Ability to evaluate a travel plan taking into account technical,

Teaching content

The lecturer teaches the students:
- Forces and torques of wind drives and their effect on the ship.
- Manoeuvrability and stability under sail.
- Instruction in route optimisation systems.
- IMO conventions and guidelines, e.g. MARPOL, EEDI, SEEMP.
- Travel planning, in particular using technical systems (ECDIS, digital publications and weather routing software).

Qualification Table A-II/1

Qualification Table A-II/2

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Vahs	4	Energy efficiency in ship operation/sail propulsion	V + EX

Module	**English module**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Walden**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Type of examination		K2/H	Nautical Science ✓	MTSM ✓	German
English ✓					
Form of examination attendance				PL	Compulsory
Semester 1.		Offer SS/WS		Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to in (Maritime) English based on the competence level B2 according to the communicate and cooperate within a common European frame of reference: 1. you can summarise the main ideas of complex texts on concrete and abstract topics Topics (e.g. ships and their tasks, cargo and staff, cargo handling, containerisation, shipping documents (e.g. Bill of Lading, Charter Parties), safety aboard the ship, sickness on board, intercultural awareness) and reproduce. 2. you can also understand and participate in specialist discussions in your own subject area actively participate. 3. you can communicate so spontaneously and fluently that a normal conversation is possible. Conversation with native speakers good on both sides without much effort is possible. 4. you will be able to provide clear and detailed information on a wide range of topics express a point of view on a topical issue and explain the advantages and disadvantages of Explain the disadvantages of various options. The following key competences are consolidated: Willingness to learn, perseverance,
Teaching content	The lecturer teaches the students - Grammar (qualification objectives 1 - 4) - Text comprehension (qualification objectives 1, 2, 4) - Communication skills (oral) (qualification objectives 2 - 4) - Expressiveness (written) (qualification objective 4)
Qualification Table A-II/1	Use of IMO standard maritime phrases and usage spoken and written English
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Walden	4	English	V + EX

Module	**Enhanced Shiphandling**				
Meta module			Type **Compulsory elective module**		ECTS **5**
Responsible	**Vahs**			SWS	**4**
Prerequisites	**recommended: Manoeuvring**			Self-study hours	**53**
Profile	**Shiphandling**			Attendance hours	**72**
Type of examination		K2/H	Nautical Science ✓	MTSM	German ✓
English ✓					
Form of examination attendance				**PL**	Compulsory
Semester **5./6./8.**	Offer		Basic studies		Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - the operation of manoeuvring equipment on various special ships describe. - the operation of special and innovative manoeuvring equipment
Teaching content	The lecturer teaches the students - the manoeuvring of various special ships including the characteristic manoeuvring behaviour and the typical manoeuvring equipment. - manoeuvring with special drive systems, e.g. azimuth thrusters (pod). - innovative drive concepts and their special features.
Qualification Table A-II/1	
Qualification Table A-II/2	
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Vahs	**4**	**Enhanced Shiphandling**	**V + Ü**

Module	**Oil and chemical tanker training**		
Meta module		Type **Compulsory elective module**	ECTS **5**
Responsible	**Kreutzer**	SWS	**4**
Prerequisites	**obligatory:** **Certificate of qualification for basic tanker training (oil/chemicals) or all tanker types) or basic tanker training module (all tanker types and proof of practical experience)** **Firefighting for service on all types of tankers**	Self-study hrs.	**53**
Profile	**Shiphandling**	Attendance hours	**72**
Exam type	**K2 / H / R**	Nautical science ✓ MTSM	German, English **English** ✓
Form of examination attendance		**PL**	Compulsory ✓
Semester	**5./6./8.**	Offer **SS**	Basic studies Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Carry out and monitor all loading processes safely - the physical and chemical properties of chemical and oily substances Describe charges - Explain precautionary measures to avoid hazards - Precautionary measures in relation to health and safety in the workplace Recognise - Solve emergencies that arise - Identify precautions to prevent environmental pollution
Teaching content	based on the IMO model courses 1.02 and 1.03 - Introduction to the topic - Properties and characteristics of oils and chemicals - Dangers when handling oils and chemicals - Rules and regulations - Design and equipment of oil and chemical tankers - Inert gas systems - Cargo and ballast pumps - Occupational health and safety and pollution prevention - Cargo handling and ballasts - Tank cleaning - Crude Oil Washing - Ship / shore interface - Emergency measures
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further notes	STCW A-V / 1-1-2 Advanced training in cargo handling on oil tankers STCW A-V / 1-1-3 Advanced training in cargo handling on chemical tankers
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Kreutzer	4	Advanced training in oil and chemical tankers	V + EX

Module	**Dangerous cargo**				
Meta module		Type	**Compulsory module**	ECTS	5
Responsible	**Kreutzer**			SWS	4
Prerequisites	**Recommended: Loading technology (participation), PO compulsory: Practical semester 1**			Self-study hours	53
Profile				Attendance hours	72
Type of examination	K2/A	Nautical science ✓		MTSM ✓	German ✓
English ✓					
Form of examination				PL	Compulsory
attendance					
Semester 5.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Describe dangerous goods and their risks for people, the environment and the ship - Take the appropriate measures in the event of accidents / emergencies - Classify dangerous goods and identify the correct technical name - Describe the correct packaging of dangerous goods and Apply packaging regulations - Correctly label packages and cargo transport units (CTUs), placarding and jamming - Regulations for transport, in particular stowage regulations and Apply separation rules - precautions during loading and unloading as well as on the Apply cargo care during the journey - Apply exceptions and special regulations as well as exempted and limited Distinguishing and determining quantities - The following key competences are consolidated: Ability to analyse, Willingness to learn, independence, abstract and networked thinking, Decision-making, willingness to perform, acceptance of responsibility
Course content	- Classification and properties of dangerous goods - International regulations, standards, codes and recommendations regarding the Transport of Dangerous Goods, in particular the International Maritime Dangerous Goods (IMDG) Codes, the International Maritime Solid Bulk Cargoes (IMSBC) Codes and Annex III of the Marpol Convention - Design, equipment of oil, chemical and liquefied gas tankers
Qualification Table A-II/1	Ensuring compliance with pollution prevention regulations; Preventing, containing the spread of and fighting fires on board
Capability Table A-II/2	Response to emergency situations in the navigation of the ship; planning and Ensuring the safe loading, stowing, securing and unloading of cargo and safe cargo handling during the voyage; transport of dangerous goods
Further notes	It is recommended to also take the subject "Loading Technology" in the same semester. to be able to follow the module better.
Certificates	

Lecturer	LVS	Course	Teaching and learning methods

Module		Dangerous cargo	
Kreutzer	4	Dangerous cargo	V + Ü

Module	**Healthcare**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Mattausch**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	B + K2/H	Nautical Science✓MTSM		German ✓	English ✓
Type of examination attendance				SL + PL	Compulsory
Semester	4.	Offer	SS/WS	Basic studies	Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
- Understand and apply basic knowledge of maritime medicine
- carry out and manage the provision of medical first aid on board
- take advantage of medical advice and translate it into effective measures.
realise,
- The following key competences are strengthened: Ability to act,
Ability to work in a team, empathy, ability to co-operate,
Emotional intelligence, independence, networked thinking, decision-making

Course content

The lecturer teaches the students in accordance with Annex 4 "Large course"
MariMedV:
- Ability to use the first aid kit
- Knowledge of the structure and functions of the human body
- Knowledge of toxicological hazards on board, and in particular
Relevant knowledge of the "Guidelines for Medical First Aid Measures
in the event of accidents involving dangerous goods" (MFAG) or the corresponding
national publication
- Ability to carry out an informed physical examination of an injured person or
Sufferers
- Knowledge of injuries to the spine
- Knowledge of burns and scalds and their effects
of heat and cold on the human body
- Knowledge of bone fractures, dislocations and muscle injuries
- Ability to provide medical care for rescued persons
- Ability to make use of radio medical counselling together with the associated
Clinical examination
- Pharmacological knowledge
- Ability to sterilise medical instruments
- Knowledge of cardiac arrest, drowning, respiratory arrest and respiratory distress
- Ability to care for injured persons with various types of injuries
- Knowledge of various aspects of health care
- Knowledge about diseases
- Ability to recognise drug, narcotic and alcohol abuse
- Knowledge of dental care
- Knowledge of gynaecology, antenatal care and obstetrics
- Ability to provide medical care for people rescued from the water
- Knowledge about death at sea
- Knowledge of hygiene
- Knowledge of health protection
- Ability to keep records and archive relevant information
Regulations
- Ability to utilise external assistance

- Ability to assess the hazardous situation
- Ability to save patients under low stress
- Ability to take immediate action in the event of accidents and illnesses, taking into account the

Perform basic anatomical and physiological knowledge
- Ability to relocate and transport under low loads
- Ability to provide treatment for specific diseases in accordance with the medical
to be able to carry out instructions in accordance with §107 SeeArbG and the MFAG guidelines

- Knowledge of further treatment measures, e.g. pain treatment and
Nursing care
- Thorough knowledge of the structure of the ship's pharmacy and the
Administration of the medication contained therein
- Thorough knowledge of medical guidance in accordance with the medical
Instruction according to §107 SeeArbG
- Thorough knowledge of the forms and records
- Thorough knowledge of the relevant legal regulations

A hospital internship of at least 80 hours (14 days) must be completed.
be completed. This should include (recommended according to MariMedV and STCW-Convention) insights into the following areas are provided:
Rescue, consciousness, circulatory arrest, respiratory failure / measures
In case of obstruction of the airways, ventilation / keeping the airways clear, positioning in case of

Respiratory disorders, external / internal haemorrhage, eye injuries,

Module Healthcare

Winther	4	Healthcare	V + Ü
	2	Hospital internship	Internship

Module	**Greenshipping**				
Meta module			Type **Compulsory elective module**	ECTS	5
Responsible	**Bentin**			SWS	4
Prerequisites				Self-study hours	53
Profile	**Greenshipping/ Marine and Environmental Engineering**			Attendance hours	72
Exam type	H	Nautical science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				**PL**	Compulsory
Semester	5./6./8.	Offer	Basic studies		Specialised studies ✓

Qualification goals	Knowledge: The student has advanced knowledge of: - Content of the IMO and EU regulation on CO2 monitoring and the Ship recycling - various systems for measuring CO2 and calculating it in accordance with regulations can be - knows the different hazardous substances found in the ship's structure and knows where they might be on the ship - knows the advantages of different CO2 monitoring concepts - Measurement principles, systems and techniques for monitoring ship propulsion and of the ship operating facilities Skills: The student - is able to create a concept for CO2 monitoring.
Teaching content	With the adoption of the EU regulation on the monitoring of CO2 emissions in the sea (MRV Directive), it is imperative to minimise CO2 emissions. measured, documented and certified. As of 01.01.2018, the shipowners are, whose ships call at EU ports must be reported. A similar rule has also been discussed at IMO level and was implemented in 2019. The permanent Monitoring and regular evaluation of the operating data can Making ship operations more efficient. Another important environmental regulation at international level is the HONKONG CONVENTION, which places new demands on ship recycling, as well as the new European regulation of the European Council, which is the European Ship Recycling Ordinance applies to all ships over 500 GT that have a
Qualification Table A-II/1	**no reference to A-II/1**
Qualification Table A-II/2	**no reference to A-II/2**
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Bentin	4	Greenshipping	V

Module	**Computer science**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Bentin**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Type of examination		K2/H	Nautical Science ✓	MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory
Semester 3.	Offer	SS/WS	Basic studies ✓		Specialised studies

Qualification goals	By successfully completing this module, students will be able to - Hardware and software configurations of a PC and its peripherals describe - operate general and specialised user programmes, - Develop and understand simple programmes - strengthen the following key competences: Ability to analyse, willingness to learn,
Teaching content	The lecturer teaches students the basics from the following areas: - History and the subfields of computer science - Storage and interpretation of information - Hardware components of a computer - Basic tasks, structure and services of operating systems - Basics of computer networking The following topics are also taught when programming in JAVA and applied: - Data types, operators and loop constructs - Formulation of algorithms - Object-orientated programming
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Ostrowitzki	4	Computer Science	V + EX

Module	Cruise shipping		
Meta module		Type Compulsory elective module	ECTS 5
Responsible	Kreutzer	SWS	4
Prerequisites	recommended: Ship theory, emergency management (participation), Dangerous cargo, personnel management	Self-study hours	53
Profile	Shiphandling	Attendance hours	72
Type of examination	K2/ H /A	Nautical Science ✓	MTSM German ✓
English ✓			
Form of examination attendance		PL	Compulsory ✓
Semester 5./6./8.	Offer WS	Basic studies	Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
- the safe handling of vehicles and passengers when boarding and alighting describe
- contribute to the organisation of emergency measures on board
- explain the use of resources
- check passengers, staff and other persons in emergency situations and instruct
- explain the measures for cargo safety and hull integrity
- describe the monitoring and control of the atmosphere in cargo holds

Teaching content

The lecturer teaches the students on the basis of the IMO model courses 1.41, 1.42, 1.44, 1.39, 1.40 as amended from time to time
- Ship design, layout
- Rules and regulations (STCW, SOLAS, relevant codes and regional laws)
- Use of resources
- Human behaviour and reactions in emergencies
- Establishing and maintaining effective communication
- Practical exercises (drills)
- Loading and embarkation procedures
- Transport of dangerous goods
- Load securing
- Stability, trim and stress calculations
- Opening, closing and securing fuselage openings
- Occupational safety
- Emergency plans, procedures and drills

Qualification Table A-II/1

no reference to A-II/1

Qualification Table A-II/2

no reference to A-II/2

Further notes

STCW A-V/2-2 Safety training for persons who are directly responsible for provide services for passengers in passenger compartments,
STCW A-V/2-3 Training in crowd management,
STCW A-V/2-4 Training in crisis management and human behaviour Forms of behaviour,
STCW A-V/2-5 Passenger safety, load safety and tightness of the hull,
STCW A-V/2-7,
STCW A-V/2-8,

Certificates

Revision number 202309

Woltron	4	Cruise	V + Ü

Module	**Loading technology**				
Meta module		Type	**Compulsory module**	ECTS	5
Responsible	**Bergmann**			SWS	4
Prerequisites	recommended: Ship Theory, Dangerous Cargo PO compulsory: Practical semester 1			Self-study hours	53
Profile				Attendance hours	72
Type of examination	K2/H	Nautical Science ✓		MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory
Semester 5.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - the loading, taking into account freeboard, stability, trim and strength of the vessel in accordance with the relevant cargo-specific plan and monitor international regulations (IMO regulations) - Cargo handling, stowage and securing in accordance with the relevant Implement IMO regulations - safely operate and assess the load computer software and analyse the results. appropriate interpretation - The following key competences are consolidated: Communication skills, Ability to analyse, perseverance, decision-making, networked thinking, Performance, independence
Teaching content	The lecturer teaches the students - Convention on Load Lines - IMSBC code (bulk loads) - BLU code (load planning) - Grain code (grain in bulk) - Timber code (wood as deck cargo) - CSS code (load securing); - Standard loads (containers, barges) - Semi-standard loads (RORO); - Non-standard loads (heavy lift/project cargo, forestry products, steel products, refrigerated loads) -Tank loads - Claims handling (behaviour to defend against claims from preliminary and Post-shipment damage to the cargo against the shipowner/carrier
Qualification Table A-II/1	Supervision of loading, stowing, securing and unloading as well as supervision of the cargo during the voyage; inspection of cargo holds, hatch covers and ballast tanks and reporting defects and damage to them; Maintaining the seaworthiness of the ship
Capability Table A-II/2	Planning and ensuring safe loading, stowing, securing and discharging of cargo and safe cargo care during the voyage; assessment of of reported defects and damage to cargo holds, hatch covers and ballast tanks and taking appropriate measures for such cases
Further comments	
Certificates	

Revision number 202309

Bergmann	4	Loading technology	V + EXERCISE

Module	**Manoeuvring**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	Vahs			SWS	4
Prerequisites	Recommended: SL Maritime English, SL Navigation 2, Watchkeeping; PO compulsory: Practical semester 1			Self-study hrs.	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester 6.		Offer SS/WS	Basic studies	Specialised studies ✓	

Qualification goals	By successfully completing this module, students will be able to - Define manoeuvres in ship operation and define the technical and physical Describe connections. - Analyse internal and external factors that influence manoeuvring. - Describe complex manoeuvre sequences, their planning and execution.
Teaching content	The lecturer teaches the students - Basic definitions of manoeuvring. - Manoeuvring equipment: Propeller, rudder, transverse thrusters, pod, etc. - Manoeuvring characteristics and parameters: course stability, turning ability, Pivot point position, stopping ability. - Standard manoeuvres (including MSC.137): Turning manoeuvres incl. turning circles, course behaviour incl. test (zig-zag, pull-out), stopping incl. crash stop manoeuvre, sea trials (sea trial), person over board, mooring/unmooring, anchoring, pilot transfer. - Influence of environmental factors: Wind, swell, current, hydrodynamic effects during ship-to-ship interactions and in narrow fairways, low keel clearance, ice. - Selected special scenarios: Collision prevention, constant radius Cornering, SAR, towing, bad weather. - Basics of propulsion and energy efficiency.
Capability Table A-II/1	Manoeuvring the vessel
Capability Table A-II/2	Manoeuvring and handling a vessel in all conceivable circumstances
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Vahs	4	Manoeuvring	V

Module	**Maritime English**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Walden**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	M/A + K2/H	Nautical Science ✓ MTSM ✓		German	English ✓
Type of examination attendance				PVL + PL	Compulsory
Semester	4.	Offer	SS/WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to Maritime English based on competence level C1 according to the communicate and cooperate within a common European frame of reference: 1. you can write a wide range of demanding, longer texts on maritime topics. Topics (e.g. The Weather, Pilot on Board, Leaving and Entering Ports, Radio and Telex Messages, The Note of Protest, Port Regulations, Cargo Damage Reports) understand and also grasp implicit meanings 2. you can express yourself spontaneously and quite fluently without having to express yourself clearly more often. having to search for recognisable words. You can use the language in the social and professional life effectively and flexibly. 3. you can express yourself in a clear, structured and detailed manner on complex issues express themselves and use different means to link texts appropriately use. 4. you can understand the Standard Marine Communication Phrases (SMCP) and apply. The following key competences are consolidated: Willingness to learn, perseverance, Independence, abstract and networked thinking, creativity, communication and
Teaching content	The lecturer teaches the students - Grammar (qualification objectives 1 - 4) - Text comprehension (Qualification goals 1) - Communication skills (oral) (qualification objectives 2 - 4) - Expressiveness (written) (qualification objective 3) - Standard Marine Communication Phrases (qualification objective 4)
Qualification Table A-II/1	Use of IMO standard maritime phrases and usage spoken and written English
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Walden	4	Maritime English	V + EX

Module	Maritime project		
Meta Module	Nautical basics	Type Compulsory module	ECTS 2
Responsible	Vahs		SWS 2
Prerequisites			Self-study hours 0
Profile			Attendance hours 50
Exam type	B	Nautical science ✓ MTSM	German ✓ English ✓
Type of examination attendance			SL Compulsory
Semester	1.	Offer SS/WS	Basic studies ✓ Specialised studies

Qualification goals

By successfully completing this module, students will be able to
- Categorising aspects of green shipping
- Present options for reducing ship emissions
- Take environmental protection into account when planning your trip, e.g. through the Use of routing methods
- Evaluate ship propulsion systems with regard to climate protection
- Explain the basic features of the use of sail drives
- Developing green shipping topics on a project basis

Teaching content

The lecturer teaches students basic knowledge in the following areas:
- Green Shipping (selected topics)
- Climate-neutral shipping
- Basic features of rice planning with regard to energy efficiency
- Basic principles of sail drives
- Project-orientated work

Qualification Table A-II/1: no reference to A-II/1

Qualification Table A-II/2: no reference to A-II/2

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Vahs	2	Maritime project	Ü

Module	**Mathematics 1**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Bentin**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester	1.	Offer	SS/WS	Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - necessary mathematical models of technical, nautical and associate with economic issues - Mathematical tasks in the area of propositional logic, functions and Calculate number systems - analytical geometry in vector form can be safely applied to nautical and technical Apply questions - solve systems of linear equations and evaluate the results as well as familiarise themselves with the Use matrix notation
Teaching content	The lecturer teaches the students: - Set theory - Functions - Limit values - Consistency - Elementary functions - Coordinate systems - Conic sections - Numbers (real and complex) - Matrix calculation and systems of equations with determinants - Vector algebra These areas can be defined and arithmetic problems can be solved.
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Stern	4	Mathematics 1	V + EX

Module	**Mathematics 2**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Bentin**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Type of examination		K2/H	Nautical Science ✓	MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory
Semester 3.	Offer	SS/WS	Basic studies ✓		Specialised studies

Qualification goals	By successfully completing this module, students will be able to - formulate the basics of differential and integral calculus and apply them to specific problems, - discrete data using polynomials, exponential and trigonometric functions adapt, i.e. reconstruct, - interpret the course of physical-technical measurement curves mathematically. - strengthen the following key competences: Ability to analyse, willingness to learn, Perseverance Independence, abstract and networked thinking, creativity
Teaching content	The lecturer teaches students arithmetic in the following areas: - Differential calculus for functions of one and more variables (partial differential, total differential, logarithmic differentiation, implicit differential) Diff.) - Extreme value tasks with error analysis - Approximation method - Integral calculus (definite and indefinite integral, partial integration, partial fraction decomposition) - improper integrals (area calculations, solids of revolution, arc lengths) - Multiple integrals - Differential equations (ordinary, partial, linear, complete) Differential equations, higher-order differential equations, solution methods, etc.
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Göken	4	Mathematics 2	V + EX

Module	**Marine science internship**				
Meta module			Type **Compulsory elective module**	ECTS	5
Responsible	**Strybny**			SWS	4
Prerequisites				Self-study hours	53
Profile	**Greenshipping/ Marine and Environmental Engineering**			Attendance hours	72
Exam type	**K1/eA/H/R**	Nautical science ✓ MTSM ✓		German ✓	English
Form of examination attendance				**PL**	Compulsory
Semester	**5./6./8.**	Offer **SS**	Basic studies	Specialised studies ✓	

Qualification goals	By successfully completing this module, students will be able to - independently conduct engineering and scientific measurement campaigns in and on plan, carry out and analyse the sea.
Course content	Preparatory lectures on the physics, chemistry and biology of the sea and on the Basics of research shipping Preparation of students for marine research in the laboratory: - Technical preparation, calibration and verification of instruments - Preparations for obtaining samples - Planning of measurement runs Carrying out measurement trips in the area of river estuaries and the southern North Sea - Recording measured values or obtaining samples, e.g. with -Integrated water scoop, soil grabber, plankton net - Multiparameter probe, Secchi disc - Measuring vanes for the flow velocity - Sonar system, underwater camera Analysing the results in the laboratory - e.g. drying, sieving - Microscopy, stereoscopy - Digital photogrammetry methods in microscopy and stereoscopy Calculative as well as graphical/textual evaluation and interpretation of the
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Strybny	4	Marine science practical course	V + EX

Module	**Meteorology**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Göken**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester	3.	Offer	SS/WS	Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - a deeper understanding of the physical states and processes of the Develop atmosphere - explain the construction of meteorological instruments - the ability to use and interpret information from meteorological instruments on board the ship - basic knowledge of the properties of the various Weather systems, Develop reporting procedures and recording systems - identify and differentiate meteorological parameters and route-relevant Make decisions - the meteorological knowledge/understanding for their activity or profession to develop solutions to problems and arguments in their area of specialisation and develop it further - Analysing and evaluating hydrometrological conditions for trip planning
Teaching content	The lecturer teaches the students - the basics of meteorology and the functioning of meteorological Measuring devices - the chemical composition of the atmosphere - the thermodynamic properties of the atmosphere - the vertical structure of the atmosphere - the forces in a rotating reference system - the horizontal air movements - the air masses and their classification - the general circulation and the west wind drift - the weather of the tropics and the polar region - reading, understanding and analysing weather information - the basics of oceanography - the risk of tropical cyclones and the associated avoidance of the affected areas
Capability Table A-II/1	Planning and realisation of a voyage and determination of the position
Capability Table A-II/2	Voyage planning and execution of navigation; prediction of meteorological conditions and oceanographic conditions
Further comments	
Certificates	

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Module	Meteorology		
Göken	4	Meteorology	V + EX

Module	**Nautical basics**				
Meta Module	**Nautical basics**	Type	**Compulsory module**	ECTS	4
Responsible	**Tomaschek**			SWS	4
Prerequisites				Self-study hours	28
Profile				Attendance hours	72
Type of examination	K2/A	Nautical science ✓		MTSM	German ✓
English ✓					
Type of examination attendance				SL	Compulsory
Semester 1.	Offer SS/WS		Basic studies ✓		Specialised studies

Qualification goals	By successfully completing this module, students will be able to - perform the tasks in the deck service - act as part of a bridge watch - determine the relevant conventions, laws and regulations - the structure and competences of the maritime transport administration, including the investigation of marine casualties
Teaching content	The lecturer teaches the students basic knowledge and impressions of the following areas: Knowledge and skills in the fields of navigation and meteorology: - Knowledge of buoyage and lighting systems - Know the devices and publications used in navigation - know meteorological parameters and units - Ability to observe the weather and use meteorological equipment - Ability to read and understand weather maps - know relevant technical terms in German and English Knowledge and skills in the area of security and occupational safety: - know the procedures for guard duty - Steering the ship - Lookout - Safe bridge watch - Knowledge of occupational safety/accident prevention - Application of emergency plans - Safe harbour watch - Mooring and launching the vessel - Know relevant technical terms in German and English Knowledge and skills in the field of marine technology: - General knowledge of the ship's technical systems - Basic knowledge of shipbuilding - Basic knowledge of loading technology - Relevant technical terms in German and English
Capability Table A-II/1	Walking a safe bridge watch
Capability Table A-II/2	Establishing procedures and arrangements for watchkeeping
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods

Module	Nautical basics		
Beelmann	4	Nautical basics	V + EXERCISE

Module	**Navigation 1**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Knoop**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				PL	Compulsory

Semester 1.	Offer SS/WS	Basic studies ✓	Specialised studies	

Qualification goals	By successfully completing this module, students will be able to - Use terrestrial navigation methods, - Use navigational information systems, - Apply navigational control procedures - carry out travel planning
Teaching content	- Perform course / bearing conversions and terrestrial compass checks - Determine ship type using terrestrial methods - Accuracy of location determination - Coastal navigation in the nautical chart (paper charts and ECDIS) - Navigational travel planning - Map designs and geographical coordinate systems - the use of Mercator mapping and spherical projection - Nautical documents (nautical charts, nautical publications and their Corrigendum) - Tidal values and tidal currents, navigation taking into account
Capability Table A-II/1	Planning and realisation of a voyage and determination of the position
Capability Table A-II/2	Voyage planning and execution of navigation; positioning and
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Knoop	4	Navigation 1	V + EX

Module	Emergency management				
Meta module	Emergency Management	Type	Compulsory module	ECTS	7
Responsible	Kreutzer			SWS	6
Prerequisites	recommended: Dangerous cargo, ship theory, Telecommunications (participation), public maritime law (participation), public shipping law, personnel management; PO compulsory: Practical semester 1			Self-study hrs.	67
Profile				Attendance hours	108
Type of examination	K3	Nautical science ✓		MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory
Semester 6.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
- Acquire problem-solving skills with regard to emergency management.
- the marine environment protection and ship safety
apply the relevant national and international regulations.

And receive the qualification:
- plan and ensure the organisation of security on board.
- prevent fires on board, contain their spread and minimise the risk of fire.
organise fire defence.
- deploy rescue equipment appropriately and according to the situation.
- react appropriately to general emergencies.
- the measures prescribed for maintaining the safety of ship operations
life-saving, fire extinguishing and other safety systems.
- to act in the context of hazard prevention and to take appropriate measures.
organise.
- to develop plans for emergencies and damage control, and
Handling of emergencies.
- to plan the organisation of safe ship operations (ISM Code) and
ensure.

Teaching content

- International conventions and recommendations as well as the European and national legislation with regard to environmental protection, ship safety and Hazard defence
- Measures for the protection and safety of all persons on board in Emergencies (fire defence, rescue equipment)
- Maintaining the operational status of rescue, fire-fighting and other equipment Security systems
- Safe ship operation (risk management, emergency plans)
- Management, organisation and training of personnel on board
- "Search and Rescue Manual" (IAMSAR)
- Measures for oil pollution damage
- Shipboard security (Maritime Security Procedures, Responsibilities, risk assessment, hazard defence plan, identification and Identification of threats and defence against them)

Capability Table A-II/1

Response to emergency situations; response to distress signals at sea;
Ensuring compliance with pollution prevention regulations;
Preventing, containing the spread of and fighting fires on board;
Use of rescue equipment; monitoring compliance with legal regulations;

Kreutzer	6	Emergency management	V

Module	Public Navigation Law				
Meta Module	Nautical basics		Type Compulsory module	ECTS	4
Responsible	Münchau			SWS	2
Prerequisites				Self-study hours	64
Profile				Attendance hours	36
Type of examination		K1	Nautical science ✓	MTSM	German ✓
English					
Form of examination				PL	Compulsory
attendance					
Semester 1.		Offer SS/WS		Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to 1. the relevant legal provisions (international conventions and national legislation), understand and apply them; 2. the activities of international organisations and their legal and Understanding assertiveness skills; 3. determine the structure and competences of the maritime administration; 4. understand the functions of the flag and register.
Teaching content	The lecturer teaches the students - History and legal sources of international maritime law - Spatial planning under the Convention on the Law of the Sea - Freedom of navigation and the flag state principle - dispute resolution by the International Tribunal for the Law of the Sea - Structure and tasks of the IMO - Legislation by international organisations - International conventions on ship safety and marine environmental protection - Flag and register law, tasks of the flag state - Tasks and activities of classification societies - Authority structure and competences in maritime transport administration
Qualification Table A-II/1	Monitoring of compliance with legal requirements
Qualification Table A-II/2	Monitoring and verification of the fulfilment of legal requirements and Measures to ensure the safety of human life at sea, the Security and protection of the marine environment
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Münchau	2	Public Navigation Law	V + Ü

Module	Public Maritime Law				
Meta module	Emergency Management	Type	Compulsory module	ECTS	3
Responsible	Münchau			SWS	2
Prerequisites	recommended: Intermediate examination PO compulsory: Practical semester 1			Self-study hours	39
Profile				Attendance hours	36
Type of examination	K1	Nautical science ✓		MTSM	German ✓
English					
Form of examination				PL	Compulsory
attendance					
Semester 6.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
1. the (international and national) regulations relevant to ship safety and marine environmental protection

determine, understand and apply national) legislation;
2. name the relevant certificates and documents to be carried on board;
3. the ability to comply with the relevant provisions on prevention of pollution in connection with ship operation;
4. the resources required for the preparation and realisation of surveys of the flag and knowledge required by the port state and classification societies and apply them;
5. organisation and competences of the maritime administration, including marine casualty investigation, understand.

Teaching content

The lecturer teaches the students
- Legislation by international organisations
- International conventions on ship safety
- International conventions on marine environmental protection
- Measures and responsibility in the event of oil pollution damage
- Legal basis and implementation of port state control
- Flag state control, certificates and surveys
- Classification and class inspections
- Structure and tasks of the Maritime Administration
- Maritime police powers and marine casualty investigation
- Tasks and responsibilities of pilots

Qualification Table A-II/1

Ensuring compliance with pollution prevention regulations;
Monitoring compliance with legal regulations

Qualification Table A-II/2

Monitoring and verification of the fulfilment of legal requirements and Measures to ensure the safety of human life at sea, the Security and protection of the marine environment

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Münchau	2	Public Maritime Law	V + Ü

Module	**Personnel management**				
Meta module			Type **Compulsory module**	ECTS	4
Responsible	**Beelmann**			SWS	4
Prerequisites				Self-study hours	28
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science✓MTSM		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester	4.	Offer	SS/WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Managing employees on board appropriately - Human resource management elements from the areas of leadership, Apply teamwork, managerial skills and communication, cultural awareness - recognise psychological processes and relationships between people and Rate - Recognising, evaluating, analysing and appropriately managing conflicts and potential conflicts solve - Relevant regulations on maritime labour law in relation to personnel management apply - The following key competences are consolidated: Ability to analyse, Willingness to learn, perseverance, independence, abstract and networked thinking,
Teaching content	- Managing employees - Guiding people in emergencies - Team building and working in a team - Staff appraisal - Vocational training and instruction techniques on board - Adequate conflict behaviour and conflict resolution strategies - Aspects of communication - Measures for alcohol abuse and addictive behaviour - Establishing and maintaining on-board hygiene and a humane working environment - Basic concepts and fundamentals of general psychology and sociology - Special features of shipping sociology and psychology - Knowledge of labour law in relation to personnel management (Maritime Labour Act) - Intercultural competences
Capability Table A-II/1	Application of leadership and teamwork skills
Qualification Table A-II/2	Leadership and business management skills
Further notes	The Social Credit Point is also assigned to the module
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
		Social Credit Point	
Beelmann	4	Personnel Management	V + EXERCISE

Revision number 202309

Module	**Physics**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Göken**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester	1.	Offer	SS/WS	Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - an understanding of technically oriented specialist modules of the Nautical Science degree programme and maritime transport - a basic understanding of forces and movements in nature and technology develop - the basic skills of quantitative, problem-solving thinking build up - apply abstract scientific thinking to nautical examples - use the physical knowledge/understanding for their work or profession, to develop solutions to problems and arguments in their area of specialisation and further develop - scientifically sound judgements that are socially, scientifically and and ethical findings - to discuss information, ideas, problems and solutions with experts and laypeople.
Teaching content	The lecturer teaches students basic knowledge in the following areas: - Physical quantities and measurement errors - Dynamics, concept of force - Labour and energy - Conservation of energy - Impacts - Potential diagrams - Kinematics of the translational movement - Dynamics of the rotary movement - rigid bodies, their centre of gravity and moment of inertia - Vibrations
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Göken	4	Physics	V + EX

Module	**Practical semester 1**				
Meta module		Type	**Compulsory module**	ECTS	30
Responsible	**Beelmann**			SWS	26
Prerequisites	**Valid seaworthiness; valid basic safety course (Basic Safety Course)**			Self-study hours	750
Profile				Attendance hours	
Type of examination	**Certificate**	Nautical Science ✓		MTSM	German
English					
Type of examination attendance				**SL**	Compulsory
Semester **2.**	Offer		Basic studies ✓		Specialised studies

Qualification goals

The aim of the first practical semester is to familiarise students with the professional field of shipping. In doing so

The aim is to gain as much practical work experience as possible and skills, which will provide the background for the subsequent theoretical training. The qualification objectives are defined by the STCW Convention and the Seafarers' Competency Regulation as amended. valid version.

Teaching content

The training in the first 6-month internship is intended to familiarise students with the the entire ship operation; special emphasis should be placed during this time on practical technical training. In addition to the usual Routine work should in particular give students the opportunity to are given, for all maintenance and repair work requiring intensive training to participate. The first semester should also include training in the bridging service. However, this should not be the sole focus. In particular the students are familiarised with the work processes on deck and in the machine room, with the handling of systems and devices, in the area of safety and firefighting as well as with cargo-related activities and Activities during bridge and guard duty. These subject areas will be supervised by the students during their time on board. and the training officer in the BSH-issued training record book, the "On Board Training Record Book for Navigational Officer's Assistant". The basis for practical training at The "Guidelines for Practical Training and Instruction" are based on §30 See-BV and the

Qualification Table A-II/1

Qualification Table A-II/2

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Beelmann		**Internship semester 1, 26 weeks**	**Internship**

Module	**Practical semester 2**				
Meta module		Type	**Compulsory module**	ECTS	30
Responsible	**Beelmann**			SWS	26
Prerequisites	1st practical semester; valid licence to work at sea; valid certificate of fitness to work at sea			Self-study hours	750
	Basic Safety Course				
Profile				Attendance hours	
Type of examination	**Certificate**	Nautical Science ✓		MTSM	German
English					
Type of examination attendance				**SL**	Compulsory
Semester **7.**	Offer		Basic studies		Specialised studies ✓

Qualification goals	The aim of the second practical semester is to apply the theoretical knowledge in practice and to apply the practical knowledge gained so far on board further develop and deepen their knowledge. In particular, the student should familiarised with the tasks of a nautical officer of the watch. Through the practical and theoretical knowledge acquired to date, the student should be able to assess his/her own abilities and skills and be able to work on board
Teaching content	The topics covered in the "On Board Training Record Book for Navigational Officer's Assistant" listed subject areas are to be completed and the students should further deepen their chosen profile on board. The following Topics covered: Work processes on deck and in the engine room, handling systems and equipment, safety and firefighting, and loading-related activities and activities during the bridge and security services. Also greenshipping/ marine and environmental technology, maritime Safety and quality management or ship handling. This is particularly important, that students are given sufficient opportunity for further, additional to gain experience in bridge and guard duty. These subject areas are covered by the students during their time on board. under the supervision of the master and the training officer in the BSH published training record book, the "On Board Training Record Book for Navigational Officer's Assistant". The basis for the practical Training on board is based on §30 See-BV and the "Guidelines for practical training on board". Training and seagoing service as a nautical officer's assistant".
Qualification Table A-II/1	
Qualification Table A-II/2	
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Beelmann		Practical semester 2, 26 weeks	Internship

Module	**Quality management systems**				
Meta module			Type **Compulsory elective module**		ECTS 5
Responsible	**Knoop**			SWS	4
Prerequisites				Self-study hours	53
Profile	**Maritime Safety and Quality Management**			Attendance hours	72
Exam type	R	Nautical ✓	MTSM ✓	German ✓	English
Form of examination attendance				PL	Compulsory
Semester	5./6./8.	Offer	WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to -Compare different QM models -Estimate the costs and benefits of a QMS -Apply QMS in a purposeful manner -Develop and optimise QMS -Planning the integration of a QMS into an existing management system Select application-orientated QMS
Teaching content	The lecturer teaches the students -Terms and definitions in connection with QMS -Basics, tasks and objectives of QMS, especially in the maritime environment -Tools and methods for quality control and improvement -Prerequisites for the successful use of QMS -Overarching aspects such as standardisation and certification
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Knoop	4	Quality Management Systems	V + Ü

Module	Safety and Security				
Meta module		Type	Compulsory elective module	ECTS	5
Responsible	Knoop			SWS	4
Prerequisites				Self-study hours	53
Profile	Maritime Safety and Quality Management			Attendance hours	72
Type of examination	K1 + HA	Nautical Science ✓		MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory ✓
Semester	5./6./8.	Offer	SS	Basic studies	Specialised studies ✓

Qualification goals	After successfully completing this module, students will be familiar with different methods for investigating accidents and can apply them. Accident reports can be analysed by them and they are in a position to to determine improvement measures in the evaluation. You are aware of the importance of accident investigations for the company's CIP. and the categorisation of these investigations in the PDCA cycle. Students will be able to recognise hazards and risks for ships and crews on both sides. areas (safety and security) and assess them and develop appropriate Perform risk assessments or SSAs. They have an awareness of global threats (terrorism, piracy, smuggling, cybercrime,...) for the shipping industry, obtain information on this independently. information and assess the threat potential of individual ships. You will be able to create SSps on the basis of an SSA and authorisation process. You can make arrangements for the effective implementation of the SSPs on board and train the crew accordingly. The necessity and manner of Carrying out inspections of the security measures and the They are familiar with the implementation of the SSP. The correct use, maintenance and servicing of emergency response equipment is familiar to the participants. They are familiar with security-relevant documents and know how to handle them. familiar. In general, their knowledge of threats to shipping is increased and They are able to pass this on and increase general safety.
Teaching content	The lecturer achieves the above-mentioned qualification goals of the students by teaching the legal basics. In addition, definitions and Responsibilities that are relevant in the areas of safety and security explained. Small exercises and repetition tasks reinforce what has been learnt. deepened. Methods for accident investigation are discussed in theory and subsequently The students practise their skills through the use of practical examples. students in groups. The SSA and the SSP are also first taught in theory. and then carried out an SSA for an example ship. For this The students conduct their own research for selected sea areas. On the The basis of the SSA created will be the creation, implementation and possible amendment of the SSA. of the SPP are discussed. This includes teaching students how to deal with Safety-relevant information and documents. Recognising dangers and threat situations is learnt in the lecture and how to deal with them. This also ensures the effective implementation of Drills and training are the subject of the lecture. In the course of the lecture the The various security measures and equipment are explained. This includes that the search of ships, persons and luggage was discussed in detail.

Knoop	4	Safety and Security	V + Ü
Knoop	4	Safety and Security	V + Ü

Module	**Ship design**				
Meta module			Type **Compulsory elective module**	ECTS	5
Responsible	**Bentin**			SWS	4
Prerequisites	**recommended: Ship theory**			Self-study hours	78
Profile	**Greenshipping/ Marine and Environmental Engineering**			Attendance hours	72
Exam type	**K1 + H**	Nautical science ✓ MTSM ✓		German ✓	English
Form of examination attendance				**PL**	Compulsory
Semester	**5./6./8.**	Offer **SS**	Basic studies	Specialised studies ✓	

Qualification goals

By successfully completing this module, students will be able to
- interpret the composition of the ship's resistance and the
Explain how the propeller works and the smooth water resistance of the propeller.
hull using empirical methods,
- the design requirements for a ship based on a transport task
and roughly develop a ship that meets these requirements,
- assess the environmental impact of the ship system and its efficiency,
- determine relevant contract figures.
- strengthen the following key competences: Thinking in contexts, creativity,
Ability to analyse, willingness to learn, decision-making

Course content

Resistance and propulsion: fluid mechanics fundamentals, numerical modelling
forecast procedure, model testing technology for both the hull and the
Propeller ship design: Shipbuilding design process,
Economic efficiency considerations, main parameters of the ship and effects of their
Change, system engineering

Qualification Table A-II/1: no reference to A-II/1

Qualification Table A-II/2: no reference to A-II/2

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Wilkendorf	4	Ship design	V + Ü

Module	**Ship theory**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Bergmann**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓MTSM		German ✓ English ✓	
Form of examination attendance				PL	Compulsory
Semester	3.	Offer	SS/WS	Basic studies ✓	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - associate shipbuilding basics - Calculate, analyse and evaluate the buoyancy, stability and trim of a ship. Rate - Apply international regulations for calculating stability - understand the longitudinal strength stress of a ship in smooth water and Rate - strengthen the following key competences: Ability to analyse, willingness to learn, Perseverance, independence, abstract and networked thinking, creativity, Decision making
Teaching content	The lecturer teaches the students - reading line drawings on ship drawings - Calculation of buoyancy according to Archimedes - Calculation of buoyancy and displacement - Determination of the initial stability of a ship - Stability of a ship (also with greater inclination) - Stability loads such as free surfaces - Skipping cargo - Wind influence - National and international stability regulations - Calculation of the trim
Capability Table A-II/1	Maintaining the seaworthiness of the ship; monitoring compliance legal regulations
Capability Table A-II/2	Influencing trim, stability and stress; monitoring and verification of the Fulfilment of legal requirements and measures to ensure the Protection of human life at sea, security and protection of the environment the marine environment
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Bergmann	4	Ship Theory	V + Ü

Module	**Maritime law**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Münchau**			SWS	4
Prerequisites	**Recommended: Nautical basics, 1st practical semester**			Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓ English ✓	
Form of examination attendance				PL	Compulsory
Semester	5.	Offer	SS/WS	Basic studies	Specialised studies ✓

Qualification goals

By successfully completing this module, students will be able to
- the content and essential provisions of sea freight contracts and the understand and apply the associated documents,
- recognise liability risks and assess their consequences,
- on correct behaviour in emergency situations (accidents, salvage, collisions) decide
- The following key competences are consolidated: Ability to analyse,

Teaching content

The lecturer teaches the students
- History and legal sources of maritime trade law
- Persons of maritime trade law: shipowners, chandlers, ship managers, masters, pilots, Brokers/agents
- Concept and types of sea freight contract
- Participants in the sea freight business
- Contents of the contract of carriage by sea
- Documents of the sea freight business: bill of lading, charter party
- Liability of the shipper and the charterer under the contract of carriage by sea
- Content of a voyage charter contract using GENCON as an example
- Determination of charge quantity and charging/storage time
- Ship transfer contracts: Time charter and bareboat charter
- Non-contractual liability of the shipowner and the master
- Liability for oil pollution damage
- Travelling emergencies: collisions, salvage and general average Grosse
- Maritime procedural law: ship creditors' rights, attachment, arbitration proceedings
- Maritime property law: ship register, acquisition of ownership of seagoing vessels, mortgage
- Marine insurance law: cargo insurance, hull insurance, P&I

Qualification Table A-II/1

Capability Table A-II/2

Response to emergency situations in the navigation of the ship; carriage dangerous goods; monitoring and checking the fulfilment of legal requirements Regulations and measures to ensure the protection of human health life at sea, security and protection of the marine environment

Further comments

Certificates

Lecturer	LVS	Course	Teaching and learning methods
Münchau	4	Maritime trade law	V + Ü

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Module	**System monitoring**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Meyer**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Type of examination		K2/H	Nautical Science ✓	MTSM ✓	German ✓
English ✓					
Form of examination				PL	Compulsory
attendance					
Semester **3.**	Offer	**SS/WS**	Basic studies ✓		Specialised studies

Qualification goals	By successfully completing this module, students will be able to - acquire general knowledge of the operation of technical ship systems - Knowledge of the correct use of drive and manoeuvring systems utilise - the ability to operate the remote control of the machine system and the Acquire technical systems - the basics for operating machinery on board ships know - Know the basics of ships' auxiliary engines
Teaching content	The lecturer teaches students content from the following areas: 1. diesel engines - Two-stroke and four-stroke diesel engines - Working procedures and the timing of diesel engines - Main engine parameters and performance 2. structure and mode of operation of the ship's technical systems - Power and work machines - Drive, propeller and steering gear - Electrical machines and systems - Ship automation - Operating materials - Pumps 3. operation of a ship propulsion system - Supply systems - Dynamic behaviour during manoeuvring - Emergency stop, emergency manoeuvre and emergency control 4. remote control of the machine - Bridge remote control system - Machine control room and local control system 5. alarm systems
Qualification Table A-II/1	no reference to A-II/1
Capability Table A-II/2	Manoeuvring and handling a vessel in all conceivable circumstances; Operating the remote control for the drive system and for other Machine-driven systems and service equipment
Further comments	
Certificates	

Meyer	4	System monitoring	V + Ü

Module	**Tanker base (oil/chemicals/liquid gas)**				
Meta module		Type	**Elective subject**	ECTS	3
Responsible	**Kreutzer**			SWS	2
Prerequisites	**obligatory:** **valid seaworthiness, valid basic safety training**			Self-study hours	35
Profile				Attendance hours	40
Exam type	K2 / H / R	Nautical science ✓MTSM		German, English	English ✓
Type of examination attendance				SL	Compulsory ✓
Semester	1.-8.	Offer	WS	Basic studies	Specialised studies

Qualification goals	By successfully completing this module, students will be able to - List all loading and unloading operations associated with loading and unloading - the physical and chemical properties of chemical and oily substances Specify loads - List precautionary measures to avoid hazards - Precautionary measures in relation to health and safety in the workplace Recognise - Name emergencies that occur - Identify precautions to prevent environmental pollution
Teaching content	based on the IMO model courses 1.01 and 1.04 - Basic knowledge of the different types of tankers - Physical and chemical properties of oil, chemicals and liquefied gases - Safety culture and compliance with safe ship operations on tankers - Dangers of oil, chemicals and liquefied gases as cargo - Occupational safety, fire protection and firefighting - Loading operation - Emergencies for oil, chemical and liquefied gas tankers - Prevention of environmental pollution
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further notes	after successfully completing the module and participating in the "practical Firefighting for service on all types of tankers" Exhibition of the Certificates of competence from the BSH STCW A V/1-1-1 Basic training in cargo handling on oil and gas tankers chemical tankers and STCW A V/1-2-1 Basic training in cargo handling on liquefied gas tankers
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Kreutzer	2	Tanker basis (oil/chemicals/liquid gas)	V + Ü

Module	Technical Navigation 1/ Radar Technology				
Meta Module	Navigation 2	Type	Compulsory module	ECTS	5
Responsible	Vahs			SWS	4
Prerequisites	recommended: Nautical basics, PO compulsory: Practical semester 1			Self-study hours	
Profile				Attendance hours	
Type of examination	K1/B	Nautical Science ✓		MTSM	German ✓
English ✓					
Form of examination attendance				PL/ SL	Compulsory
Semester 4.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - use radar equipment for navigation and collision avoidance, including the Use of common plotting methods;
Teaching content	Structure and mode of operation of radar systems, Radar image analysis in various display modes, Methods for position determination and path monitoring using the radar unit (stationary lines, PI), Methods of collision avoidance with radar/ARPA Radar limits and false echoes
Capability Table A-II/1	Planning and realisation of a voyage and determination of the position; walking a safe bridge watch; use of radar equipment and ARPA systems for Maintaining the safety of shipping;
Capability Table A-II/2	Maintaining safe navigation by using data from Navigation devices and systems to support decision-making by the watch commander;
Further notes	Attendance is compulsory for the exercises on the radar simulator (radar simulator course).
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Plawenn	2	Radar	Ü
Knoop	2	Technical navigation 1	V

Module	Technical Navigation 2/ ECDIS				
Meta Module	Navigation 2	Type	Compulsory module	ECTS	5
Responsible	Vahs			SWS	4
Prerequisites	recommended: Technical Navigation 1/ Radar Technology, Nautical Navigation			Self-study hours	53
	Basics,				
	PO compulsory: Practical semester 1				
Profile				Attendance hours	72
Type of examination	K1	Nautical science ✓		MTSM ✓	German ✓
English ✓					
Form of examination attendance				PL	Compulsory
Semester 5.	Offer SS/WS		Basic studies		Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Compass systems, satellite navigation systems, airspeed measuring systems and echo sounders insert -Integrated navigation systems including ECDIS for safe and efficient navigation Using navigation in different scenarios
Teaching content	Design, function and performance limits of compass systems, Satellite navigation systems, voyage measuring systems and echo sounders Design and function of the following navigation systems and their practical use Use in navigation: - Magnetic and gyro compass - Course and track controller - Integrated navigation systems - ECDIS - AIS
Capability Table A-II/1	Planning and realisation of a voyage and determination of the position; walking a safe bridge watch; use of electronic chart display and navigation systems Information systems (ECDIS) for maintaining maritime safety
Capability Table A-II/2	Voyage planning and execution of navigation; positioning and Accuracy; determination and consideration of compass errors; Maintaining safe ship management through the use of data from Navigation devices and systems to support decision-making by the officer in charge of the watch;; maintaining safe navigation by Use of ECDIS and associated navigation systems to Support for decision-making by the watch commander
Further notes	Attendance is compulsory for the exercises in the ECDIS laboratory (ECDIS course).
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Knoop	2	Technical Navigation 2	V
Plawenn	2	ECDIS	Ü

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Module	Telecommunications				
Meta module		Type	Compulsory module	ECTS	5
Responsible	Woltron			SWS	4
Prerequisites	recommended: Nautical basics, PO compulsory: Practical semester 1, Maritime English			Self-study hrs.	53
Profile				Attendance hours	72
Exam type	K2 + B	Nautical Science ✓ MTSM		German ✓	English ✓
Type of examination attendance				PVL + PL	Compulsory ✓
Semester	6.	Offer	WS/SS	Basic studies	Specialised studies ✓

Qualification goals

By successfully completing this module, students will have:
- the ability to send messages using GMDSS equipment and devices and fulfilment of the functional requirements for the GMDSS.
receive
- knowledge of the contents of the International Manual for the Airborne and Maritime Search and Rescue (IAMSAR)
- the ability to use the International Signalling Book
- the ability to use the SOS distress signal as described in Appendix IV of the Collision Prevention Regulations of 1972 as amended from time to time and in Appendix I of the International Signalling Book in Morse code with light signals to and receive single-letter signals according to the representation in the

Course content

By successfully completing this module, students will acquire:
- the ability to send messages using GMDSS equipment and devices.
send and receive
- knowledge of the contents of the International Manual for the Airborne and Maritime Search and Rescue (IAMSAR)
- the ability to use the International Signalling Book
-knowledge of the functional regulations for the GMDSS
- the ability to use the SOS distress signal as described in Appendix IV of the Collision Prevention Regulations of 1972 as amended from time to time and in Appendix I of the International Signalling Book in Morse code with light signals to and receive single-letter signals according to the representation in the International Signal Book with optical signalling and to send and receive
receive
The lecturer teaches the students
- Visual reading and issuing of SOS and single-letter signals
- Knowledge of the structure and application of the signalling book
- Exercises using the signalling book with the correct operating procedure
- Emergency/emergency/safety communication
- Means of preventing false alarms and procedures for cancelling them
- Knowledge of ship reporting systems and the requirement for medical and radio medical assistance
- Basic knowledge of the mobile maritime radio service (including satellite communication)
- Practical knowledge and skills for operating a marine radio station and a GMDSS facilities
- In-depth application of the already learnt IMO Standard Marine Communications Phrases, in particular relating to the protection of human life at sea
- Protective measures for ship safety and personal safety related to the dangers of radio equipment, including electrical and non-ionising radiation

to send and receive international signal books with optical signalling

Module	Telecommunications

Module	Umweltmanagementsysteme / Environment Protection Management Systems				
Meta module		Type	Compulsory elective module	ECTS	5
Responsible	Strybny			SWS	4
Prerequisites				Self-study hours	53
Profile	Greenshipping/ Marine and Environmental Technology; Maritime Safety and Security				
Attendance hours					72
Exam type	K2 / R	Nautical science ✓	MTSM ✓	German	English ✓
Form of examination attendance				PL	Compulsory
Semester	5./6./8.	Offer	WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Environmental awareness in a company undergoes structured development to the customer. - the connections between environmentally friendly products and
Teaching content	The subject focuses on the consideration of the environmental influence of a company in its entirety. The focus is on the instruments of Management for the structured development of an operational Environmental awareness. Emphasising the connection between ecology and Economy. Introduction of the term eco-efficiency. - Introduction to the ISO 14000 standards - Preparation of life cycle assessments for companies, differentiation between material and Impact assessment - Utilisation of life cycle inventory databases such as Ecoinvent, ProBas, ELCD, GEMIS, NEEDS - Impact indicators such as cumulative energy consumption, material intensity, Carbon footprint, ecological footprint - Own responsibility of companies with regard to environmental protection and their Documentation through the eco-audit with the aim of environmental certification, Consideration of the so-called EMAS regulation - Introduction of core indicators to review and improve the operational environmental management
Qualification Table A-II/1	no reference to A-II/1
Qualification Table A-II/2	no reference to A-II/2
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Strybny	4	Umweltmanagementsysteme / Environment Protection	V + Ü

Module	**Security service**				
Meta module		Type	**Compulsory module**	ECTS	5
Responsible	**Kreutzer**			SWS	4
Prerequisites	recommended: Nautical basics, PO compulsory: Practical semester 1			Self-study hrs.	53
Profile				Attendance hours	72
Exam type	K2/M	Nautical Science ✓	MTSM ✓	German ✓	English ✓
Form of examination attendance				PL	Compulsory
Semester 4.	Offer SS/WS		Basic studies	Specialised studies ✓	

Qualification goals	By successfully completing this module, students will be able to - go to a safe sea watch - Interpret a traffic situation - Measures for safe ship handling by applying the Collision Prevention Regulations (KVR) and the Maritime Traffic Regulations (Seeschifffahrtsstraßenordnung) - The following key competences are consolidated: Ability to analyse, Willingness to learn, perseverance, independence, abstract and networked thinking, Decision-making, willingness to perform
Teaching content	The lecturer teaches the students the content, the application and the Purpose of the - international rules for the prevention of collisions at sea - the national rules for the prevention of collisions at sea and the Navigation regulations for national waters - Principles for the bridge watch service and the resulting effective Cooperation of a bridge crew
Capability Table A-II/1	Walking a safe bridge watch
Capability Table A-II/2	Establishing procedures and arrangements for watchkeeping
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Plawenn	4	Guard duty	V + Ü

Module	**Private Commercial Law**				
Meta module			Type **Compulsory module**	ECTS	5
Responsible	**Münchau**			SWS	4
Prerequisites				Self-study hours	53
Profile				Attendance hours	72
Exam type	K2/H	Nautical Science ✓ MTSM ✓		German ✓	English ✓
Form of examination				PL	Compulsory attendance
Semester	4.	Offer	SS/WS	Basic studies	Specialised studies ✓

Qualification goals	By successfully completing this module, students will be able to - Develop an understanding of the structure and functioning of the legal system - Understand the basics of civil and public law - general knowledge of labour law as well as specific knowledge of Acquire maritime labour law and apply it in practice (on land/on board) - The following key competences are consolidated: Ability to analyse, Willingness to learn, perseverance, independence, abstract and networked thinking,
Teaching content	The lecturer teaches the students 1. basic principles of public law: constitutional law; administrative law; international and European law; criminal law. 2. fundamentals of civil law: organisation and structure of the German Civil Code Content of contracts; performance disruptions and damages; types of contracts; possession and property. 3. fundamentals of individual labour law and collective labour law. 4. legal bases of maritime labour law: Maritime Labour Act, International Conventions, collective labour agreements; rights and obligations of the master and the Crew; employment relationship and employment contract; rights and obligations arising from the Employment relationship; working time regulations and occupational health and safety; duty of care of the shipowner (board, lodging, holiday, health care); termination of the contract Wage relationship; order on board, complaints procedure; control of the Working conditions on board due to flags and port state control. 5. basic principles of commercial and company law: merchant, commercial register, Company and authorised signatory; special features of commercial transactions; personal and Corporations.
Authorisation Table A-II/1	Monitoring of compliance with legal requirements
Qualification Table A-II/2	Monitoring and verification of the fulfilment of legal requirements and Measures to ensure the safety of human life at sea, the Security and protection of the marine environment
Further comments	
Certificates	

Lecturer	LVS	Course	Teaching and learning methods
Münchau	4	Private Commercial Law	V + Ü

Modul Literatur

Modul Englisch

Autor	Jahr	Buch Titel	Auflage	Ort
Van Dokkum, Klass	2016	Ship Knowledge	9	Enkhuizen, NL
Vince, Michael	2009	Intermediate Language Practice	1	Oxford
Vince, Michael	2009	Advanced Language Practice	1	Oxford

Modul Navigation 1

Autor	Jahr	Buch Titel	Auflage	Ort
Berking, Bernhard; Huth, Werner	2016	Handbuch Nautik	2	Hamburg
DSV-Verlag (Hrsg)	2008	Begleitheft – Hilfsmittel für Ausbildung und Prüfung	2	Bielefeld
International Hydrographic Organisation (Hrsg)	2008	Symbols and abbreviations used on Admiralty Charts	4	Taunton
Wallin, Börje	2021	Ship Navigation	2	Vlissingen

Modul Nautische Grundlagen

Autor	Jahr	Buch Titel	Auflage	Ort
Baudu, Herve	2014	Ship Handling		Enkhuizen
BG-Verkehr (Hrsg)	2012	Handbuch See: Arbeitssicherheit und Gesundheitsschutz in der Seeschiffahrt und Fischerei		Hamburg
Clissold, Peter	1998	Basic Seamanship	7	Glasgow
Deutscher Wetterdienst (Hrsg)	1993	Wolkenatlas für die Wetterbeobachtung auf See	2	Hamburg
Kropp, Björn; Peters, Reinhard; Wand, Christoph	2012	Leben und Lernen an Bord: Lehrbuch zur Ausbildung von Praktikanten (Nautik), Schiffsmechanikern, NOA und SBTA	2	Herne
Sakautzky, Detlev	2006	Schiffssicherung Grundwissen, Lernhilfe		Berlin
Sakautzky, Detlev; Geitmann, Peter	2012	Arbeits- und Sozialrecht Grundwissen, Lernhilfe	2	Berlin

Sakautzky, Detlev; Geitmann, Peter; MacDonald, James	2014	Arbeiten mit Tauwerk Grundwissen für den Schiffsmechaniker, Lernhilfe		Berlin
Sakautzky, Detlev; Geitmann, Peter; Ruhnke, Gisbert; Falke, Thorsten; Seidel, Karl-Heinz; Benecke, Friedrich Wilhelm	2008	Schiff und Ladung Grundwissen, Lernhilfe		Berlin
Sakautzky, Detlev; Geitmann, Peter; Wullekopf, Harm; Falke, Thorsten	2007	Brücken- und Wachdienst Grundwissen, Lernhilfe		Berlin
Seewetteramt (Hrsg)	2002	Seewetter	2	Hamburg
Van Dokkum, Klass	2016	Ship Knowledge	9	Enkhuizen, NL
Verband Deutscher Reeder e.V.; Zentralverband Deutscher Schiffsmakler e.V. (Hrsg)	2013	See-Schiff-Ladung: Fachbuch für Schiffahrtskaufleute		Lüneburg
Verband für Schiffbau und Meerestechnik (Hrsg)	2006	Schiffstechnik und Schiffbautechnologie	2	Hamburg

Modul Öffentliches Schifffahrtsrecht

Autor	Jahr	Buch Titel	Auflage	Ort
Ahlers & Vogel (Hrsg)	2019	Basistexte Seerecht	2	Bremen/Hamburg
Beckert, Erwin ; Breuer, Gerhard	1991	Öffentliches Seerecht		Berlin/ New York
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Ehlers, Peter	2017	Recht des Seeverkehrs		Baden-Baden
Graf Vitzthum, Wolfgang	2006	Handbuch des Seerechts		München
Jacobshagen, Uwe	2016	Seeschifffahrtsrecht und Öffentliches Seerecht	2	Münster

Modul Meteorologie

Autor	Jahr	Buch Titel	Auflage	Ort
Bock, Karl-Heinz, Brauner, Ralf, Dentler Frank-Ulrich	2009	Seewetter	2	Hamburg
Häckel, Hans	2021	Meteorologie	9	Stuttgart
Liljequist, Gösta H., Cehak, Konrad	2006	Allgemeine Meteorologie	3	Berlin

Malberg, Horst	2007	Meteorologie und Klimatologie	5	Berlin
Salby, Murry L.	1996	Fundamentals of atmospheric physics		San Diego
Scharnow, Ulrich, Berth, Werner, Keller, Werner	1990	Maritime Wetterkunde	7	Berlin
Watts, Alan	2002	Das Wetter in Bildern: Wettervorhersage nach Wolkenfotos		Bielefeld

Modul Schiffstheorie

Autor	Jahr	Buch Titel	Auflage	Ort
Barrass, C. Bryan; Derrett, D.R.	2012	Ship stability for master and mates	7	Amsterdamm/Boston/Heidelberg
Clark, Ian C.	2002	The Management of Merchant Ship Stability, Trim and Strength		London
Dokkum, Klaas van	2008	Ship stability	3	Enkhuizen, NL
Dokkum, Klaas van	2012	Ship knowledge	7	Enkhuizen, NL
Verband für Schiffbau und Meerestechnik (Hrsg)	2006	Schiffstechnik und Schiffbautechnologie	2	Hamburg

Modul Betriebswirtschaftslehre

Autor	Jahr	Buch Titel	Auflage	Ort
Biebig, Peter; Althof, Wolfgang; Wagener, Norbert	2008	Seeverkehrswirtschaft	4	München/Wien
Büter, Clemens	2013	Außenhandel – Grundlagen internationaler Handelsbeziehungen	3	Berlin/Heidelberg
Däumler, Klaus-Dieter; Grabe, Jürgen	2009	Kostenrechnung 2	8	Herne/Berlin
Eckardt, Gordon H.	2011	Business Management – Angewandte Unternehmensführung (Begrifflich-methodische Grundlagen und Fallstudien)	3	Göttingen
Stopford, Martin	2009	Maritime Economics	3	New York
Verband Deutscher Reeder (Hrsg)	2008	Gemeinschaftskontenrahmen für die deutsche Handelsschifffahrt		Hamburg
von Känel, Siegfried	2008	Betriebswirtschaft für Ingenieure		Herne

Wöltje, Jörg	2009	Betriebswirtschaftliche Formelsammlung	4	München

Modul Wachdienst

Autor	Jahr	Buch Titel	Auflage	Ort
International Chamber of Shipping (Hrsg)	2022	Bridge Procedures Guide	6	London

Modul Personalführung

Autor	Jahr	Buch Titel	Auflage	Ort
Berthel, Jürgen; Becker, Fred G.	2010	Personal-Management: Grundzüge für Konzeptionen betrieblicher Personalarbeit	9	Stuttgart
BG-Verkehr (Hrsg)	2018	Leitfaden zur Umsetzung Seearbeitsgesetze unter deutscher Flagge		Hamburg
Covey, Stephen R.	1997	Principle-centered leadership		London
Dekker, Sidney	2015	Safety Differently, Human Factors for a New Era		London
Diestel, Hans-Hermann	2005	Compendium on Seamanship & Sea accidents: Apractical guide to improve Seamanship and prevent Sea Accidents		Hamburg
Gregory, Dik; Shanahan, Paul	2017	Being Human in Safety-Critical Organisations		London
Hentze, Joachim; Graf Andrea; Kammel, Andreas; Lindert Klaus	2005	Personalführungslehre	4	Wien
International Labour Office (Hrsg)	2008	Compendium of Maritime Labour Instruments		
Jeffery, Richard	2007	Leadership Throughout: how to create sucessful enterprise		London
Le Goubin, Andre L.	2012	Mentoring at Sea: The 10 Minute Challenge		London
Reason, James	1997	Managing the Risks of Organizational Accidents		London
Weber, Emma	2014	Turning Learning into Action. A Proven Methodology for Effective Transfer of Learning		London

Modul Maritimes Englisch

Autor	Jahr	Buch Titel	Auflage	Ort

Bundesamt für Seeschifffahrt und Hydrographie (Hrsg)	2014	IMO Standard Marine Communication Phrases (IMO SMCP), IMO-Standardredewendungen für die Seefahrt: Englisch – Deutsch		Hamburg/ Rostock
Dr. Mercedes Herrera Arnaiz	2014	Use of English for Maritime Students	1	Almeria, Spain
Van Kluijven, P.C.	2013	The International Maritime Language Programme	5	Alkmaar, NL

Modul Wirtschaftsprivatrecht

Autor	Jahr	Buch Titel	Auflage	Ort
Ahlers & Vogel (Hrsg)	2019	Basistexte Seerecht	2	Bremen/Hamburg
Beck-Texte (Hrsg)	2022	Arbeitsgesetze	100	München
Beck-Texte (Hrsg)	2022	Bürgerliches Gesetzbuch	89	München
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Führich, Ernst	2017	Wirtschaftsprivatrecht	13	München
Jörgens, Runa; Bubenzer, Christian	2015	Praxishandbuch Seearbeitsrecht		Berlin/ New York
Mallach, Esther; Noltin, Jörg; Bubenzer, Christian; Preetz, Robert	2015	SeearbG		München
Schnauder, Franz	2020	Grundzüge des Privatrechts für den Bachelor	5	Heidelberg

Modul Technische Navigation 1/ Radartechnik

Autor	Jahr	Buch Titel	Auflage	Ort
Alan Bole; Alan Wall; Andy Norris	2013	Radar and ARPA Manual	3	Amsterdam

Modul Technische Navigation 2/ ECDIS

Autor	Jahr	Buch Titel	Auflage	Ort
Becker-Heins, Ralph	2014	ECDIS basics : a guide to the operational use of electronic chart display and information systems	1	Lemmer, NL
Berking, Bernhard; Huth, Werner	2016	Handbuch Nautik	2	Hamburg
Broster, Mark	2018	ECDIS procedures guide	2	Livingston, Scotland
Broster, Mark	2020	ECDIS procedures guide	4	Livingston, Scotland

Gale, Harry	2009	From paper charts to ECDIS : a practical voyage plan ; guidance to the shipping industry on the transition from paper chart navigation to an electronic chart display and information system (ECDIS)		London
Hecht, Horst	2011	The electronic chart : fundamentals, functions, data and other essentials ; a textbook for ECDIS use and training	3	Lemmer, NL
Merchant Navy Training Board (Hrsg)	2018	Electronic chart display and information systems (ECDIS) simulator training	2	Livingston, Scotland
Thornton, Peter	2019	The ECDIS Manual	2	Livingston, Scottland
Wallin, Börje	2021	Ship Navigation	2	Vlissingen
Weintrit, Adam	2009	The Electronic Chart Display and Information System (ECDIS) : an operational handbook		Boca Raton, Fl
Witherby Publishing Group Ltd (Hrsg)	2021	ECDIS passage planning and watchkeeping	7	Livingston, Scotland
Witherby Publishing Group Ltd. (Hrsg)	2019	ECDIS CPD : a personal record of qualifications, service and training including preparation for ECDIS exams and assessments		Livingston, Scottland
Witherby Publishing Group Ltd. (Hrsg)	2020	ECDIS Safety Settings and UKC Management		Livingston, Scottland
Witherby Publishing Group Ltd. (Hrsg)	2020	ECDIS passage planning and watchkeeping	6	Livingston, Scottland
Witherby Seamanship International Ltd. (Hrsg)	2019	ECDIS passage planning and watchkeeping	5	Livingston, Scottland

Modul Gefährliche Ladung

Autor	Jahr	Buch Titel	Auflage	Ort
Bundesministerium für Verkehr und Digitale Infrastruktur (Hrsg)	2016	IMDG-Code 2016 : inklusive Amendment 38-16 : amtliche deutsche Übersetzung		Dortmund
Storck GmbH (Hrsg)	2019	EmS und MFAG : ergänzende Vorschriften für Gefahrguttransporte auf See		Hamburg

Modul Ladungstechnik

Autor	Jahr	Buch Titel	Auflage	Ort

Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg

Modul Seehandelsrecht

Autor	Jahr	Buch Titel	Auflage	Ort
Ahlers & Vogel (Hrsg)	2019	Basistexte Seerecht	2	Bremen/Hamburg
Beck-Texte (Hrsg)	2022	Handelsgesetzbuch	67	München
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Drews, Kai-Holger	2020	Seehandelsrecht	5	Hagen
Geisler, Alexander; Johns, Dirk Max	2018	See- Schiff – Ladung	2	Lündeburg
Herber, Rolf	2016	Seehandelsrecht	2	Berlin/ New York
Münchener Kommentar zum HGB (Hrsg)	2020	Band 7, Transportrecht (2020)	4	München
Rabe, Dieter; Bahnsen, Kay Uwe	2018	Seehandelsrecht	5	München
Ramming, Klaus	2017	Seehandelsrecht, Band 1		Berlin/Boston

Modul Telekommunikation

Autor	Jahr	Buch Titel	Auflage	Ort
Bergmann, Michael; Brauner, Ralf; Callsen-Bracker, Hans-Heinrich; Hilmer, Hartmut H.; Korte, Holger; Majohr, Jürgen et al.	2016	Handbuch Nautik 1: Navigatorische Schiffsführung	2	Hamburg
Braun, Andreas	2011	Seefunk (LRC): Mit Fragen- und Antwortenkatalog	4	Bielefeld

Modul Manövrieren

Autor	Jahr	Buch Titel	Auflage	Ort
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Bertram, V.	2012	Practical Ship Hydrodynamics	2	Oxford
Groenhuis, S.	2018	Ship Manoeuvring	1	Rotterdam
Molland, A.	2007	Marine Rudders and Control Surfaces: Principles, Data, Design and Applications		

Rowe, R.	1997	Shiphandler's Guide for Masters and Navigating Officers, Pilots and Tug Masters		London

Modul Notfallmanagement

Autor	Jahr	Buch Titel	Auflage	Ort
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg

Modul Öffentliches Seerecht

Autor	Jahr	Buch Titel	Auflage	Ort
Ahlers & Vogel (Hrsg)	2019	Basistexte Seerecht	2	Bremen/Hamburg
Beckert, Erwin ; Breuer, Gerhard	1991	Öffentliches Seerecht		Berlin/ New York
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Douvier, Stephan	2012	MARPOL		Bremen
Ehlers, Peter	2017	Recht des Seeverkehrs		Baden-Baden
Graf Vitzthum, Wolfgang	2006	Handbuch des Seerechts		München
Jacobshagen, Uwe	2016	Seeschifffahrtsrecht und Öffentliches Seerecht	2	Münster

Modul Cargo Care

Autor	Jahr	Buch Titel	Auflage	Ort
Benedict, Knuth; Wand, Christoph	2018	Handbuch Nautik II	2	Hamburg
Taylor, Leslie G.	1992	Cargo work: the care, handling and carriage of cargoes; including the managment of marine cargo transportation	12	Glasgow

Modul BEP Theorie Schiffsführung, Ladungsumschlag und Stauung

Autor	Jahr	Buch Titel	Auflage	Ort
Bergmann, Michael; Brauner, Ralf; Callsen-Bracker, Hans-Heinrich; Hilmer, Hartmut H.; Korte, Holger; Majohr, Jürgen et al.	2016	Handbuch Nautik 1: Navigatorische Schiffsführung	2	Hamburg

Modul BEP Praxis Schiffsführung Simulator

Autor	Jahr	Buch Titel	Auflage	Ort
Baudu, Herve	2014	Ship Handling		Enkhuizen
Bergmann, Michael; Brauner, Ralf; Callsen-Bracker, Hans-Heinrich; Hilmer, Hartmut H.; Korte, Holger; Majohr, Jürgen et al.	2016	Handbuch Nautik 1: Navigatorische Schiffsführung	2	Hamburg
Bundesamt für Seeschifffahrt und Hydrographie (Hrsg)	2014	IMO Standard Marine Communication Phrases (IMO SMCP), IMO-Standardredewendungen für die Seefahrt: Englisch – Deutsch		Hamburg/ Rostock
Culjak, Anna	2015	Organisation und Devianz, Eine empirische Fallrekonstruktion der Havarie der Costa Concordia		Hamburg
Groenhuis, S.	2018	Ship Manoeuvring	1	Rotterdam
Hecht, Horst	2011	The electronic chart : fundamentals, functions, data and other essentials ; a textbook for ECDIS use and training	3	Lemmer, NL
Rowe, R.	1997	Shiphandler's Guide for Masters and Navigating Officers, Pilots and Tug Masters		London
Witherby Publishing Group Ltd (Hrsg)	2021	ECDIS passage planning and watchkeeping	7	Livingston, Scotland
Witherby Publishing Group Ltd. (Hrsg)	2020	ECDIS passage planning and watchkeeping	6	Livingston, Scottland
Witherby Publishing Group Ltd. (Hrsg)	2020	ECDIS Safety Settings and UKC Management		Livingston, Scottland

Modul Qualitätsmanagementsysteme

Autor	Jahr	Buch Titel	Auflage	Ort
Chauvel, Alain-Michel	1997	Managing safety and quality in shipping; the key to success; a guide to ISM, ISO 9002; TQM		London

Modul Kreuzschifffahrt

Autor	Jahr	Buch Titel	Auflage	Ort
Covey, Stephen R.	1997	Principle-centered leadership		London

Culjak, Anna	2015	Organisation und Devianz, Eine empirische Fallrekonstruktion der Havarie der Costa Concordia		Hamburg
Dekker, Sidney	2015	Safety Differently, Human Factors for a New Era		London
Gregory, Dik; Shanahan, Paul	2017	Being Human in Safety-Critical Organisations		London
Hopkins, Andrew	2012	Disastrous decisions. The human and organisational causes of the Gulf of Mexico blowout		North Ryde
Kristiansen, Svein	2013	Maritime transportation. Safety management and risk analysis		Oxon
Reason, James	1997	Managing the Risks of Organizational Accidents		London
Weber, Emma	2014	Turning Learning into Action. A Proven Methodology for Effective Transfer of Learning		London

Modul Tankergrundausbildung (alle Tankschiffstypen)

Autor	Jahr	Buch Titel	Auflage	Ort
Chemical Distribution Institute (Hrsg)	2018	Chemical Tanker Operations for the STCW Advanced Training Course : A Practical Guide to Chemical Tanker Operations	1	Livingston, Scotland
Druckerei Paul Moehlke OHG (Hrsg)	2018	Öltagebuch : gemäß Internationalem Übereinkommen von 1973 zur Vehütung der Meeresverschmutzung durch Schiffe und dem Protokoll von 1978 zu diesem Übereinkommen (MARPOL 73/78)…		Hamburg
International Association of Independent Tanker Owners (Hrsg)	2014	A guide for correct entries ... / P. 2, Cargo/ballast operations	1	
International Association of Independent Tanker Owners (Hrsg)	2014	A guide for correct entries ... / P. 1, Machinery space operations	3	
International Association of Independent Tanker Owners (Hrsg)	2016	Safety Management Initiatives in Shipping	1	London
International Association of Independent Tanker Owners (Hrsg)	2017	A guide to the vetting process	12	London
International Chamber of Shipping (Hrsg)	2020	ISGOTT International safety guide for oil tankers and terminals	6	Livingston, Scotland

	Merchant Navy Training Board (Hrsg)	2015	Tanker Training Courses Criteria : Basic Training for Oil and Chemical, and Liquefied Gas Tanker Cargo Operations : Advanced Training for Oil, Chemical and Liquefied Gas Tanker Cargo Operations		Edinburgh
	Oil Companies International Marine Forum (Hrsg)	2017	Tanker Management and Self-Assessment : a Best Practice Guide	1	Livingston, Scotland
	Oil Companies International Marine Forum (Hrsg)	2017	Recommendations for Oil and Chemical Tanker Manifolds : and Associated Equipment	1	Livingston, Scotland
	Oil Companies International Marine Forum (Hrsg)	2018	Guidelines for offshore tanker operations	1	Livingston, scotland
	Oil Companies International Marine Forum (Hrsg)	2018	Guidelines for offshore tanker operations	1	Livingston, Scotland
	Society of International Gas Tanker and Terminal Operators Ltd. (Hrsg)	2018	Ship / shore for interface for LNG / chemical gas carriers and terminals	1	Livingston, Scotland
	Society of International Gas Tanker and Terminal Operators Ltd. (Hrsg)	2019	SIGTTO Information Papers (2019)	1	Livingston, Scotland