VILNIUS GEDIMINAS TECHNICAL UNIVERSITY (VILNIUS TECH)
LITHUANIAN MARITIME ACADEMY (LMA)

STUDY COURSES FOR INCOMING ERASMUS+ STUDENTS
2025/2026 Autumn

ACADEMIC CALENDAR

AUTUMN SEMESTER		
	From	**To**
Orientation Days	2025-08-28	2025-09-01
Lectures	2025-09-02	2025-12-21
Examination Session	2026-01-02	2026-01-25
Retakes	2026-01-26	2026-02-01

MARINE NAVIGATION

No.	Course Name (EN)	Course Name (LT)	ECTS
1.	Navigational Mathematics	*Matematiniai navigacijos pagrindai*	3
2.	Basics of Marine Technology	*Jūrų technologijų pagrindai*	6
3.	Basic Seamanship	*Jūreivystės pagrindai*	6
4.	Maritime English: Meteorology, Emergency Response and Communications Terminology and Language Practice	*Meteorologijos, avarinių situacijų ir radijo ryšio terminija bei kalbos praktika*	5
5.	Ship‘s Power Plants	*Laivų energetiniai įrenginiai*	3
6.	Ship‘s Theory	*Laivo teorija*	4
7.	Technical Aids to Navigation	*Laivavedybos techninės priemonės*	4
8.	Navigational Meteorology	*Navigacinė meteorologija*	5
9.	Fundamentals of Management and Human Resources Management	*Vadybos pagrindai ir žmogiškųjų išteklių valdymas*	5
10.	Maritime English (Cargo Handling Terminology and Ship‘s Correspondence)	*Laivo krovos terminija bei laivo korespondencijos rengimas*	3
11.	Ship’s Handling in Emergency Situations	*Laivo valdymas avarinėse situacijose*	3

MARINE ENGINEERING and MARINE ELECTRICAL ENGINEERING

No.	Course Name (EN)	Course Name (LT)	ECTS
12.	Fundamentals of engineering science	*Inžinerijos mokslų pagrindai*	4
13.	Thermodynamics	*Termodinamika*	5
14.	Material Processing and Repair Works at LMA Workshop	*Mokomoji šaltkalvystės ir remonto praktika*	6
15.	Basic Seamanship	*Jūreivystės pagrindai*	4
16.	Maritime English: Ship propulsion terminology and language practice	*Laivo varymo įrenginių terminija ir kalbos praktika*	3
17.	Ship‘s Auxiliary Machinery	*Laivo pagalbiniai mechanizmai*	5
18.	Construction of Marine Internal Combustion Engines	*Laivų vidaus degimo variklių konstrukcija*	5
19.	Terminology and language practice in marine electrical engineering and electrical systems	*Jūrų elektros inžinerijos ir elektros sistemų terminija ir kalbos praktika*	3
20.	Basics of Power Electronics	*Galios elektronikos pagrindai*	3
21.	Ship's Auxiliary Machinery Engineering Systems	*Laivų pagalbinių mechanizmų inžinerinės sistemos*	4
22.	Ship‘s Electrical and Power Transmission Equipment	*Laivų elektros ir galios perdavimo įranga*	3
23.	Ship’s Electrical Technology	*Laivų elektros technologijos*	6

MARITIME TRANSPORT LOGISTICS TECHNOLOGIES

No.	Course Name (EN)	Course Name (LT)	ECTS
24.	Fundamentals of logistics	*Logistikos pagrindai*	3
25.	Introduction to transport logistics	*Transporto logistikos įvadas*	3
26.	Seaport terminals and operations	*Jūrų uosto terminalai ir operacijos*	4
27.	Programming fundamental	*Programavimo pagrindai*	5
28.	Stevedoring technologies and mechanisation	*Krovos darbų technologijos ir mechanizmai*	2
29.	General cargo logistics technologies	*Generalinių krovinių logistikos technologijos*	3
30.	Bulk cargo logistics technologies	*Masinių krovinių logistikos technologijos*	3
31.	Dangerous goods logistics technologies	*Pavojingų krovinių logistikos technologijos*	2

GENERAL COURSE

No.	Course Name (EN)	Course Name (LT)	ECTS
32.	Transport Engineering and Information Technologies (IT)	*Transporto inžinerinės ir informacinės technologijos (IT)*	5
33.	Applied Mathematics	*Taikomoji matematika*	4
34.	Philosophy and Ethics	*Filosofija ir etika*	3
35.	Labour Safety, Civil Protection and Marine Environment	*Darbo, civilinė ir aplinkos sauga*	5
36.	Introduction to Maritime English	*Įvadas į jūrinę anglų kalbą*	3
37.	Maritime English	*Jūrinė anglų kalba*	5

The course is available if minimum number of students in a group is 5 persons.

If the number is less than 5 students, LMA Erasmus+ coordinator offers another available course and change Learning Agreement.

COURSE INFORMATION

MARINE NAVIGATION

Navigational Mathematics
3 ECTS
The purpose of the subject is to acquire the basic professional competences provided for in the sample program: 1.1 “Voyage planning and execution and determination of the ship's location” and Basic Knowledge Appendix no. 1 “Mathematics” (Model Course 7.03: Officer in Charge of a Navigational Watch, 2014) and comply with the provisions of the International Convention on Standards for the Training, Certification and Watchkeeping of Seafarers, as amended. The subject is intended for future ship management specialists to get to know and master mathematical laws and possible solution methods that are applied in ship management practice. The greatest attention is paid to linear and vector algebra, analytical geometry, differential and integral calculus, application of approximate calculation methods, spherical trigonometry and methods of measurement error and accuracy estimation. This subject significantly expands students' abilities and basic knowledge before studying important subjects of ship management studies - navigation, marine astronomy, navigational devices, etc. The goals of the subject are focused on the improvement of the student's personal qualities, achieved by developing and deepening the following general abilities: entrepreneurship, mathematical, logical thinking, engineering thinking, the ability to work in a team, make decisions independently, computer and mathematical literacy, the ability to accumulate information, analytical thinking, form the entire learning life skills. Prerequisites: before studying the subject, the student must have taken the study subjects “Basics of Marine Technology”, “Applied Mathematics”.

Fundamentals of Management and Human Resources Management
5 ECTS
Analyze the principles of organization of human resources activities on board ships, understanding the importance of leadership and self-leadership in crew management, updating the knowledge of management and psychology necessary for effective human resources management, apply the principles of team cooperation in short-term and long-term strategic management processes. Apply the principles of management, develop the concepts of personnel management functions, decision-making in extreme conditions. The description of the study subject has been prepared in accordance with the International Maritime Organization model course 1.39 “Leadership and Teamwork” and Model Course 1.21 “Personal Safety and Social Responsibilities.” Final assessment - exam. A cumulative assessment system is applied.

Basic Seamanship
6 ECTS
The aim of the subject is to acquire the basic professional competencies of seafarers and shipmasters, provided for in the provisions of the International Convention on the Standards of Training, Certification and Watchkeeping of Seafarers as amended (in English - STCW) and in the model program (Model Course 7.03: Officer in Charge of a Navigational Watch). The purpose of the subject is to provide basic knowledge and practical skills that will allow you to professionally and safely manage to maneuver, moor, and anchor the ship under various difficult sailing and hydrometeorological conditions in various sailing areas, to carry out emergency procedures in order to ensure the safety of people and the ship in accordance with National and International legislation. Develop logical and analytical thinking, develop lifelong learning skills, be able to work in a multicultural environment, make decisions independently. The goals of the subject are focused on the improvement of the student's personal qualities, achieved by developing and deepening the following general abilities: entrepreneurship, mathematical, logical thinking, engineering thinking, the ability to work in a team, in a multicultural environment, to make decisions independently, computer and mathematical literacy, the ability to accumulate information, analytical thinking, build lifelong learning skills. There are no prerequisites for studying this subject.

Maritime English: Meteorology, Emergency Response and Communications Terminology and Language Practice
5 ECTS
The aim of the study module is to develop students' ability to use maritime English in order to facilitate communication in accordance with their duties and responsibilities, using maritime terms rather than regulatory radio expressions and to ensure that students have sufficient knowledge, understanding and proficiency in using marine English, Certification and Watchkeeping (STCW) Code, and to develop lifelong learning skills, providing an opportunity to further develop English language skills at sea. The description of the study module is prepared in accordance with the International Maritime Organisation's Model Course "Maritime English 3.17".

Ship's Power Plants
3 ECTS
1. Working principle, structure and technical operation of the internal combustion engine. Preparing the diesel engine for starting, starting, warming up, setting the load mode, stopping. Adjusting the volume and height of the combustion chamber. Adjusting the thermal gap in the valve gear. Finding the piston's critical points. Inspection of gas distribution phases of a four-stroke engine. Sprayer inspection and adjustment. Checking and adjusting the fuel advance angle. Drawing and processing of an indicator chart. 2. Marine engineering terms and fuel consumption 3. Steam power plants. Ship's turbine engines. Principle of operation, structure and technical operation. The structure of the steam power plant. Structure of turbine power plants. 4. Auxiliary mechanisms of the ship. Refrigeration equipment for ships. Water desalination equipment. Principle of operation, structure and technical operation. Auxiliary mechanisms of the ship and their structure. Ship refrigeration equipment and their construction. 5. On duty in the premises of the power plant.

Ship's Theory
4 ECTS
The aim of the subject is to acquire the professional competencies provided for in the International Maritime Organisation's Model Programs: 7.03: Officer in Charge of a Navigational Watch, 2014 and 7.01: Master and Chief Mate, 2014 and to fully comply with the International Convention on Seafarers the provisions of the Standards on Training, Certification and Watchkeeping, as amended (STCW). The subject is intended for future pilots to get acquainted with the main sea characteristics of a ship, buoyancy, stability, immersion, sway. During the internship, the student acquires skills in drawing up a ship's handling plan, how to calculate and assess the ship's buoyancy, stability and immersion or meets the requirements of national classification societies and the International Maritime Organization, introduces measures to improve the ship's stability. learns to make decisions independently when the ship's stability deteriorates, there is a threat to the ship's buoyancy or immersion, develops general skills, logical and engineering thinking. During the studies, the student performs practical-course work, during which he calculates and evaluates the stability of the ship, whether the ship meets the stability requirements.

Technical Aids to Navigation
4 ECTS
Acquire basic theoretical knowledge and practical skills to professionally use traditional and modern pilotage techniques, ensuring safe maneuvering in various situations and avoiding accidents when passing other vessels, calculate and apply the errors of magnetic and gyroscopic compasses, plan a voyage and perform safe navigation using: GPS receivers, echo sounders, lags, drivers, AIS - Automatic Identification System, LRIT - Long Range Identification and Tracking, VDR - Voyage Data Recorder , SSAS - Ship Security Alert System.

Navigational Meteorology
5 ECTS
The aim of the subject is to acquire professional competencies provided for in the model programs: 1.1 “Voyage planning and execution and ship positioning” (“Model Course 7.03: Officer in Charge of a Navigational Watch, 2014”) and 1.8 “Forecasting of weather and oceanographic conditions” (“Model Course 7.01: Master and Chief Mate, 2014) and comply with the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as amended. The subject is designed to know and analyze the processes in the atmosphere and hydrosphere, their regularities and forecasting properties, and to be able to collect, process, evaluate and apply all this information in planning activities and direct navigation procedures, analysis and application of meteorological information; to analyze the synoptic map and forecast weather conditions taking into account local weather conditions and information received from meteorological services, to describe the characteristics of various atmospheric phenomena and apply them to pilotage, to analyze the characteristics of various weather forecasting systems, reporting procedures and their recording systems; plan the trip according to meteorological conditions. Prerequisites: before studying the subject, the student must have studied the study subjects “Basics of Marine Technology”, “Navigational Mathematics”.

Basics of Marine Technology
6 ECTS
To know the regularities and laws of physics, to be able to apply this knowledge in practical activities - in the performance of the duties of a captain at the leading level. During laboratory practice, improve the ability to use devices, work independently and in a group. When solving problems, learn to use formulas, solve problems in different ways. Include the positions defined in Model Course 7.03 Officer in Charge of a Navigational Watch (Appendix 2 – Physical Science) in the training process plan.

Maritime English (Cargo Handling Terminology and Ship‘s Correspondence)
3 ECTS
The aim of the study module is to develop students' ability to use maritime English to facilitate communication in accordance with their duties and responsibilities, using maritime terms rather than standard radio expressions and to ensure that students have sufficient knowledge, understanding and proficiency in the use of maritime English as specified in the Seafarers' Training , Certification, and Watchkeeping (JRAB) Code, and to develop lifelong learning capabilities, providing the opportunity to further develop English language skills at sea. The description of the study module was prepared in accordance with the Model Course "Maritime English 3.17" of the International Maritime Organization.

Ship Handling in Emergency Situations
3 ECTS
The purpose of the subject is to provide basic knowledge and practical skills to professionally and safely operate, manoeuver, moor, anchor a ship in various complex sailing, hydrometeorological conditions, various sailing areas, to carry out emergency procedures to ensure human and ship safety in accordance with National and International legislation. To develop logical, analytical thinking, to form lifelong learning skills, to be able to work in a multicultural environment, to make independent decisions. The aims of the subject are focused on the development of the student's personal qualities, achieved by developing and deepening the following general skills: entrepreneurship, mathematical, logical thinking, engineering thinking, teamwork, multicultural environment, independent decision making, computer and mathematical literacy, information storage, analytical thinking, to develop lifelong learning skills.

MARINE ENGINEERING and MARINE ELECTRICAL ENGINEERING

Fundamentals of Engineering Science
4 ECTS
Understand the laws of physics in engineering sciences. To be able to describe, relate and interpret physical quantities and their measurement units in different measurement systems and use them freely. Be able to predict the results of solving engineering tasks and analyze and evaluate the obtained results. To be able to recognize the laws of mechanics, energy, heat, fluids and electrical engineering, choose them and apply them in solving engineering problems. The description of the study subject was prepared in accordance with the Model Course of the International Maritime Organization (English Model Course) no. 7.02 “Chief engineer officer and second engineer officer”, 7.04 “Officer in charge of an engineering watch”.

Ship Auxiliary Machinery
5 ECTS
The aims of the subject are to provide knowledge about the constructions, purposes, working principles, operating conditions, starting and stopping sequences, maintenance systems and procedures of ship auxiliary mechanisms, to form the first work skills within the ship power plant service. The aims of the subject are focused on the development of the student's personal qualities, achieved by developing and deepening the following general skills: engineering thinking - examining the construction of pumps and other mechanisms, analytical thinking - laboratory work on a pump test bench, ability to make decisions independently, form lifelong learning skills, practical tasks with computer training programs. The description of the study subject has been prepared in accordance with the International Maritime Organization Model Course for mechanics No. 7.02 “Chief engineer officer and second engineer officer, 7.04 “Officer in charge of an engineering watch”.

Material Processing and Repair Works at LMA Workshop
6 ECTS
To provide theoretical knowledge and practical skills necessary for watchkeeping in the ship's engine department, as outlined in the competencies specified in Table A-III/1 of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978/95. During practical training sessions, students learn to use hand tools and measuring instruments for disassembling, maintaining, repairing, and assembling ship machinery and equipment. They are trained in fitting, turning, milling, electric and gas welding, and gas cutting techniques. Students acquire hands-on skills in repair and assembly work. The introductory fitting practice is carried out in the mechanical workshops of the VILNIUS TECH Lithuanian Maritime Academy, and the repair practice is conducted in mechanical workshops and ship repair workshops.

Basic Seamanship
4 ECTS
To acquaint students with the maritime sector and its surrounding environment. To provide knowledge about types of transportation, marine engineering units, the structure of ships and their crews, types of ships, ship equipment and types of power plants and engines, port and coastal infrastructure and specific information according to the needs of the study program. The aim of the study subject is realized through both theoretical and practical lectures, visiting ships and engaging in other related practical activities. The aim of the subject is focused on the development of the student's logical thinking, information analysis, perception and systematization, oratorical abilities and independent work, skills and the formation of a socially responsible person. The description of the study subject was prepared in accordance with the International Maritime Organization training course (English Model Course) for mechanics no. 7.02 “Chief engineer officer and second engineer officer”, 7.04 “Officer in charge of an engineering watch”.

Construction of Marine Internal Combustion Engines
5 ECTS
The goals of the subject are to provide basic knowledge and practical skills by analyzing and professionally mastering the structure and operation of internal combustion engines and their pump systems for various purposes, evaluating the disadvantages and advantages, understanding, comparing and evaluating the thermal processes taking place in various internal combustion engines of ships. During practical and laboratory work with working engines and electronic simulators, the design of engines and their systems, sequence of preparation for start-up, power plant management, maintenance, control and regulation of parameters, fault finding, and their elimination are mastered. The goals of the subject are focused on the improvement of the student's personal qualities, achieved by developing and deepening the following general abilities: engineering thinking, analytical thinking, the ability to make decisions independently, and forming lifelong learning skills. The description of the study subject was prepared in accordance with the Model Course of the International Maritime Organization (English Model Course) no. 7.02 “Chief engineer officer and second engineer officer”, 7.04 “Officer in charge of an engineering watch”.

Ship's Auxiliary Machinery Engineering Systems
4 ECTS
To provide knowledge about the structures of ships' auxiliary mechanisms, their purpose, working principles, operating conditions, starting and stopping action sequences, technical service systems and procedures, to form the first work skills in the service department of the ship's power plant. The goals of the subject are focused on the improvement of the student's personal qualities, achieved by developing and deepening the following general abilities: engineering thinking - when examining the constructions of pumps and other mechanisms, analytical thinking - performing laboratory and practical work at the pump test bench, the ability to make independent decisions, form lifelong learning skills, performing practical tasks with computer training programs. The description of the study subject was prepared in accordance with the International Maritime Organization model training course for electromechanics 7.08 “Electro-technical officer”.

Ship‘s Electrical Technology
6 ECTS
To theoretically understand the electromagnetic and electromechanical principles that govern electrical machines. To know and understand the structural components, operating principles, areas of application, operating modes, and technical characteristics of different types of electrical machines, as well as to assess their performance features and conditions of use. To analyze and interpret electrical diagrams and understand the symbolic representations of electrical machines in circuits. To develop the ability to independently make informed technical decisions, troubleshoot electromechanical and electrical machine faults, and improve the operational characteristics of electrical machines according to changing conditions, needs, and available resources. The course description is prepared in accordance with the International Maritime Organization’s Model Courses for engineers No. 7.02 “Chief Engineer Officer and Second Engineer Officer” and 7.04 “Officer in Charge of an Engineering Watch”.

Thermodynamics
5 ECTS
Learn the basic laws and definitions of thermodynamics, recognize and name thermodynamic processes, list their main parameters, draw process graphs, explain methods of energy transformation and heat transfer in the environment and technical systems. After acquiring this knowledge, students will be able to understand the technological processes taking place in engineering systems and energy devices during the operation of the ship's power plants and auxiliary mechanisms, evaluate the obtained results and explain their influence on the operation of energy devices. The applied aspects of the thermodynamics course are examined.

Terminology and language practice in marine electrical engineering and electrical systems
3 ECTS
To develop students' ability to use maritime English to facilitate communication in accordance with their duties and responsibilities, using maritime terms other than standard radio communication expressions (SMCP) and to provide students with sufficient knowledge, understanding and proficiency in the use of maritime English as specified in the Seafarer Training, Certification, and Watchkeeping (JRAB) Code, and develop lifelong learning skills to further develop English language skills at sea. The description of the study module was prepared in accordance with the model course "Maritime English 3.17" of the International Maritime Organization (IMO), the model course of the International Maritime Organization for electro-mechanics 7.08 "Electro-technical officer".

Basics of power electronics
3 ECTS
The aims of the subject are to form and consolidate students' knowledge of the main individual components of power electronics, principles of operation of devices and equipment containing semiconductor elements, their main characteristics and parameters and their modification according to the technical task, operating conditions and applications in different marine electrical systems. The description of the study subject has been prepared in accordance with the International Maritime Organization exemplary training course for electromechanics 7.08 "Electro-technical officer".

Ship's Electrical and Power Transmission Equipment
3 ECTS
To explain the conditions and processes of the ship's electrical and power transmission devices, enumerating the main elements, to define the purpose of power transmission switchboards and their maintenance. To analyze the impact of the marine environment on the wear of electrical devices and insulation, their service time and modes of operation. To be able to rate electrical equipment practically in electrical calculations and connections of circuits. To evaluate the states of electrical systems, to take appropriate decisions in connecting electrical circuits during the laboratory works. The description of the study subject is prepared with reference to the International Maritime Organisation Model Course 7.08 "Electro-technical Officer".

Maritime English: Ship propulsion terminology and language practice
3 ECTS
The aim of the study module is to develop students' ability to use maritime English in order to facilitate communication in accordance with their duties and responsibilities, using maritime terms rather than regulatory radio expressions and to ensure that students have sufficient knowledge, understanding and proficiency in using marine English, Certification and Watchkeeping (STCW) Code, and to develop lifelong learning skills, providing an opportunity to further develop English language skills at sea. The description of the study module is prepared in accordance with the International Maritime Organisation's Model Course "Maritime English 3.17".

MARITIME TRANSPORT LOGISTICS TECHNOLOGIES

Fundamentals of logistics
3 ECTS
Introduction to transport logistics
3 ECTS
Seaport terminals and operations
4 ECTS
To define the basic concepts of logistics and supply chain, the location of the seaport and port terminals in the process of cargo transportation, the main functions of the seaport and terminals, to explain the complexity of the activities of the maritime sector, to introduce the latest technologies applied in the maritime sector. To explain, analyze and evaluate the role of logistics in the maritime business sector at the level of the **Fundamentals of logistics**, to acquire knowledge of the terminology of basic logistics concepts, to divide and analyze logistics functions in the port, to analyze and apply the principles and rules of creating logistics chains, technological innovations in logistics. At the level of **Introduction to transport logistics**, which is taught in English, have a basic knowledge of the elements of the supply chain related to the delivery of goods/cargo, warehousing, vehicles. Be able to explain in English the basic concepts, the functions of transport logistics, the purpose of the supply chain and the elements that make it up, know the cargo transportation documents. At the level of **Seaport terminals and operations**, analyze the specialization, functions, technical structure, operational technological processes and applied typical and latest technologies of ports and terminals. After completing the course, students will understand the functions of logistics, distinguishing the role of transport logistics, the functions of the seaport and port terminals in the cargo transportation process, will be able to explain the complexity of the activities of the maritime sector, will acquire an English dictionary of essential logistics concepts, will improve grammar and speaking skills on the topic of logistics.

Programming fundamental
5 ECTS
To provide knowledge about IT, logistics information systems and the latest information search and communication tools and to be able to apply modern means of preparing text documents and calculators in the professional activity of a maritime transport logistician by using their functionality, to automate the technical stages of document preparation, to form complex computer literacy skills that allow critical assessment, select and effectively apply the functions of logistics information systems in professional activities. At the level of the **Programming fundamental**, to provide knowledge of the application, modification and correction of programming lexicon, data structures, syntactic constructions and complex sets of them, thanks to which the student will be able to independently compile the algorithms necessary for solving tasks and problems of maritime transport logistics technologies, effectively find and correct errors arising from their preparation and operation years. Be able to compile and apply the constructions of programming languages used in marine technologies, use standard and third-party libraries and modules. By means of decomposition, analyze system processes taking into account time and resource limitation factors by creating and executing simulation models in order to achieve optimization goals of existing or projected systems. After studying the subjects of the module, students will be able to create simulation models of discrete events of logistics processes and their systems, taking into account the optimization goals of existing or projected systems, graphically display the obtained data and results.

Stevedoring technologies and mechanisation
2 ECTS
General cargo logistics technologies
3 ECTS
Bulk cargo logistics technologies
3 ECTS
Dangerous goods logistics technologies
2 ECTS
Describe marine freight logistics technologies, select appropriate and safe technology for bulk, liquid, general and hazardous cargoes, taking into account cargo flow trends, forecasts, cargo characteristics and batch size. After assessing the specificity of the logistics operations taking place in seaport terminals, be able to plan and organize the transportation of various types of marine cargo through seaport terminals, analyse the compatibility of the terminal, the form of cargo presentation and vehicle parameters, and evaluate the results of the technological process of marine cargo taking place in the seaport terminal. Know and be able to apply CTU Code, International Maritime Dangerous Goods Code (IMDG Code), International Seaborne Solid Bulk Cargo Code (IMSBC Code), International Convention on Safe Containers (CSC), "Code of Good Practice work safety and health in the port", planning and organizing cargo logistics technological solutions, directly carrying out cargo logistics procedures.

GENERAL COURSE

Transport Engineering and Information Technologies
5 ECTS
To provide knowledge about IT, transport IS and online services in order to form complex computer literacy skills, which allow to critically evaluate, select and effectively manage IS functions in professional activities. Use the latest information retrieval and communication tools. To apply modern means of preparation of text documents and spreadsheets in professional activities and to utilize their functionality. To provide theoretical knowledge and practical skills about the preparation and management of technical documentation, applying the requirements of Lithuanian and European standards for the performance and execution of drawings. Be able to understand the drawings of the ship's construction documentation. To develop skills in using computer graphics AutoCAD design possibilities, methodology of working with it and creation of graphic documents - drawings by computer. Acquired theoretical knowledge and practical skills of drawing and analysis of drawings, applied in the study of specialty subjects, preparation of term papers, diploma theses, as well as in further work activities.

Applied Mathematics
4 ECTS
To provide the basic knowledge of higher mathematics and the practical skills of basic mathematical methods, necessary for studying the subjects of the specialty, for understanding the fundamentals of the operation of ship mechanisms and devices, and for solving the problems of ships' energy devices. To form a system of skills and abilities for applying mathematical knowledge in practice. Develop the ability to identify and classify technical problems in interaction with the environment, model situations of mathematical content with algebraic phenomena, functions, equations, inequalities, and systems of equations and inequalities, predict their solution method and justify the results obtained; solving various tasks in the field of ship energy equipment operation and preparing projects to solve the problem.

Labour Safety, Civil Safety and Environmental Protection
5 ECTS
To provide basic knowledge of occupational safety in maritime freight transport technologies. During lectures and practical classes, skills to use relevant literature and computer programs are developed. During the work with the textbook and scientific literature, the ability to search for solutions, to identify the main elements on which the safety of stevedoring, safe transportation of cargo and their maintenance on board is developed. After completing this subject, the student will be able to independently perform loading work safely, control the progress of cargo securing, safely transport various cargo by sea and supervise them. The aims of the subject are focused on the improvement of the student's personal qualities, achieved by developing and deepening the following general skills: logical, engineering thinking, the ability to work safely individually and in a team, in a multicultural environment, to make decisions independently. Civil protection - to acquire the basic theoretical knowledge and practical skills of civil protection in order to assess and forecast possible threats in the state of Lithuania, as well as the impact of these consequences on the security of the population and the environment. Be able to make decisions in accordance with the international and Lithuanian legal documents of the civil protection and rescue system. Environmental safety - to provide theoretical and practical knowledge about the impact of the Maritime Transport Complex on the environment in the context of global environmental problems, international and national requirements for environmental protection on board ships, environmental protection technologies and equipment on board ships.

Philosophy and Ethics
5 ECTS
Applying erudition to be able to think universally and critically, to evaluate and predict the development of the relationship between science, technology and culture, to formulate issues relevant to professional life at the personal and social level.

Introduction to Maritime English
3 ECTS
The aim of the study module is to develop students' ability to use maritime English to facilitate communication in accordance with their duties and responsibilities, using maritime terms rather than standard radio expressions and to ensure that students have sufficient knowledge, understanding and proficiency in the use of maritime English as specified in the Seafarers' Training, Certification, and Watchkeeping (STCW) Code, and to develop lifelong learning capabilities, providing the opportunity to further develop English language skills at sea. The description of the study module was prepared in accordance with the Model Course “Maritime English 3.17” of the International Maritime Organization.

Maritime English
5 ECTS
Be able to explain the concept of a port in English, distinguishing the types of ports and their organizational structures, the division of ports according to their activities; to analyze the importance of the port for the country's economy and business; to acquaint with the structure of the ship, the distribution of the ship's crew; different types of ships and their classification characteristics; to present the main types of cargo, cargo handling equipment, cargo handling procedures and types of cargo; explain the need for occupational safety, indicate possible health effects and safety measures; be able to read and understand professional literature, communicate on maritime business topics in writing and orally, using professional terminology. To expand the vocabulary of essential maritime English concepts, to improve grammar and speaking skills.