University of Kyrenia
Faculty of Maritime Studies
Maritime Transportation Management Engineering
Course Contents

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MTH101	**Calculus I**	**(3,2,0)**	**4**	**6**	**Core Course**
This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology.					
Course Code	**Course Name**	**(T,A,L)**	**Credit**	**ECTS**	**Core/Elective Course**
MPH101	**Physics for Mariners I**	**(3,2,0)**	**4**	**5**	**Core Course**
Vectors, statics, dynamics, work, energy, power, momentum, rotational motion, harmonic motion, hydrostatics, hydrodynamics, heat and temperature, heat transfer, wave motion and sound.					
Course Code	**Course Name**	**(T,A,L)**	**Credit**	**ECTS**	**Core/Elective Course**
CHE101	**Chemistry for Mariners**	**(2,1,0)**	**2.5**	**5**	**Core Course**
Metric system, introduction to stoichiometry, the structural and physical properties of matter, i.e., electronic structure of atoms, chemical binding, and molecular orbitals and states of matter, i.e., gases, liquids and solids. Basis of concentration. Balancing the reactions.					
Course Code	**Course Name**	**(T,A,L)**	**Credit**	**ECTS**	**Core/Elective Course**
SAF101	**Maritime Safety I**	**(2,2,0)**	**3**	**4**	**Core Course**
Survival techniques at sea. Location and usage of personal life saving appliances. Basic (elementary and medical) first aid. Personal safety and social responsibilities. Survival at sea. Life-saving vehicles and equipment basic first aid what to do in the event of an accident or emergency encounter. Fatigue, stress control. Staff training and social responsibility.					
Course Code	**Course Name**	**(T,A,L)**	**Credit**	**ECTS**	**Core/Elective Course**
MET101	**Maritime Meteorology**	**(3,2,0)**	**4**	**5**	**Core Course**
According to the rules of STCW, it is important to have the ability to accurately observe weather events and provide international communication and meteorological weather forecasting capabilities on board for the purpose of ensuring safe navigation and transportation. This course focuses on heat, wind, rain, clouds, precipitation, currents and meteorological processes connected with these basics.					
Course Code	**Course Name**	**(T,A,L)**	**Credit**	**ECTS**	**Core/Elective Course**
NAV101	**Navigation I**	**(2,1,0)**	**2.5**	**3**	**Core Course**
In this course, sailors will learn about the definition and history of navigation, the evolution of nautical instructions, the structure and rotation of the Earth, as well as the concepts of latitude and longitude. They will also be introduced to the usage, symbols, and abbreviations used in nautical charts, as well as the importance of chart corrections and notices for mariners. Additionally, the course covers topics such as distance and direction measurement, nautical publications, and specifications.					

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SEA101	Seamanship I	(2,2,0)	3	4	Core Course

STCW-78 (Standards of Training, Certification, and Watchkeeping for Seafarers) provides essential information and training for oceangoing captains, oceangoing chief officers, and officers. This comprehensive program covers a wide range of topics necessary for safe and efficient seamanship. Participants will gain knowledge in areas such as navigation, ship handling, safety procedures, emergency response, communication, and international regulations. By adhering to the guidelines set forth by STCW-78, seafarers can ensure that they possess the necessary skills and qualifications to perform their duties effectively and contribute to the smooth operation of maritime activities.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MRE101	Introduction to Marine Engines I	(2,1,0)	2.5	3	Core Course

At the end of the second semester, students will have the opportunity to participate in a two-month summer shipboard training program. This program aims to provide students with hands-on experience and basic knowledge about ship machinery in preparation for their future internships. During this training, students will have the opportunity to work directly with ship machinery, gaining practical skills and familiarizing themselves with the operation, maintenance, and troubleshooting of various onboard systems. This valuable experience will enhance their understanding of the maritime industry and prepare them for their future careers as seafarers.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
TUR101	Turkish I: Written Expression	(2,0,0)	2	2	Compulsory

Reading passages related to the chapter; grammar studies; vocabulary and translation activities; listening activities; debates on current issues related to the department (Repetition of tenses, Internet history, Health and medicine, passive frameworks, social issues, Environmental issues, Repetition of modals, Law and punishment, repetition of adjective phrases, Language and Literature, Repetition of noun phrases.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
AİT101	Ataturk's Principles and History of Turkish Revolution I	(2,0,0)	2	2	Core Course

The reasons that prepared the collapse of the Ottoman Empire and the Turkish Revolution. Disintegration of the Ottoman Empire, Tripoli War, Balkan Wars, First World War. Armistice of Mudros. The situation of the country in the face of the occupations and the reaction of Mustafa Kemal Pasha, the departure of Mustafa Kemal Pasha to Samsun. The opening of the Turkish Grand National Assembly of the National Struggle. Treaty of sevr. The Lausanne Peace Treaty. Atatürk's Principles: Republicanism, Nationalism. Populism, Statism. Secularism, Revolutionism.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MTH102	Calculus II	(3,2,0)	4	6	Core Course

This course is designed to develop the topics of series, parametric equations, vector and surfaces, vector valued functions, partial differentiation, multiple integrals and vector calculus. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to vector calculus, parametric equations and polar coordinates, multiple integrals problems with and without technology.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MPH102	Physics for Mariners II	(3,2,0)	4	5	Core Course

It is designed to develop parametric equations, vectors and surfaces, vector-valued functions, partial derivatives, multiple integrals and vector calculus. Upon completion, students should be able to select and use appropriate models and techniques to find solutions to vector calculus, parametric equations and polar coordinates, multiple integral problems with and without technology.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SAF102	Maritime Safety II	(2,2,0)	3	3	Core Course

The SOLAS (Safety of Life at Sea) convention of 1974, along with its amendments, establishes important rules and regulations to ensure the safety and security of ships and their crews. In this course, students will learn about the provisions and requirements outlined in SOLAS 1974 and its amendments.The course will cover various aspects related to fire safety on board ships. Students will be introduced to the conditions that can lead to fires, as well as methods for preventing fires from occurring. They will learn about different fire classes and the appropriate firefighting techniques for each class. The course will also cover the types of firefighting equipment available, including fixed and portable fire extinguishers, as well as fireman outfits, breathing apparatus, hoses, nozzles, and international shore connections.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV102	Navigation II	(3,2,0)	4	5	Core Course

In this introductory course on navigation, students will gain a fundamental understanding of the principles and techniques used in navigating at sea. The course will cover various topics related to terrestrial navigation, chart usage, compasses, nautical instruments, and navigation aids. The course will begin with an overview of terrestrial navigation, including the concepts of traverse and latitude. Students will learn about different methods of terrestrial navigation and the practical application of tools such as Mercator charts and Norrie's Table in navigation.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SEA102	Seamanship II	(2,2,0)	3	3	Core Course

In this course, students will gain a comprehensive understanding of ropes and their applications in various aspects of seamanship. The course will cover different types of ropes, their specifications, and the dimensional measurements associated with them. Students will learn about the parts of a fiber rope and the characteristics of synthetic and wire cordages, including their breaking strength. The protection and proper usage of ropes will also be emphasized, along with the necessary preparations before using them. The course will delve into practical rope work, introducing students to the essential terms and commands used in handling ropes. Students will learn various seamanship works involving ropes, including the description and methods of tying common seaman knots. Additionally, techniques such as whipping, and the use of fiber and wire cordage slings will be covered.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
WAT102	Standards of Watchkeeping I	(2,1,0)	2.5	3	Core Course

In this course, participants will gain a comprehensive understanding of the rules and regulations for combat prevention at sea. They will learn about the importance of maintaining a safe and secure environment on board a ship to prevent potential conflicts and ensure the safety of the crew and vessel. The course will cover ship reporting systems, including the procedures and protocols for reporting to relevant services such as the Vessel Traffic Services (VTS). Participants will learn how to effectively communicate and exchange information with these services to ensure safe navigation and avoid any potential hazards or collisions. Over-Bridge Resource Management (BRM) will be a key topic covered in the course. Participants will learn how to effectively manage and utilize all available resources on the ship's bridge, including personnel, equipment, and information, to enhance situational awareness and decision-making during various navigational scenarios.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
PED102	Physical Education	(0,2,0)	1	1	Core Course

In this program, the focus is on developing software applications specifically designed for ships and narrow spaces, with the goal of enhancing physical competence. Participants will learn how to create programs that cater to the unique needs and constraints of maritime environments.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
CMP102	Introduction to Computer Applications	(2,2,0)	3	3	Core Course

As a continuation of the previous course, computer applications II provide full menu of application modules with core requirements for spreadsheet, presentation software**.** Students will have the opportunity to practice and get hands on experience using the different technologies. The impact would be mainly focused on accomplishing a number of tasks in a number of ways in different office programs to dominate on presentation software and spreadsheet applications.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
TUR102	Turkish II: Verbal Expression	(2,0,0)	2	2	Compulsory

To correct the deficiencies of native and foreign students in Turkish language. To improve students' written and oral expression by using texts of writers who are employing Turkish nicely.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
AİT102	Ataturk's Principles and History of Turkish Revolution II	(2,0,0)	2	2	Core Course

The present time, recent conditions and to analyze the situation; to create a perspective about the future of the world and our country; to create a national memory by informing the students about their recent past; to learn Ataturk's principles and reforms with the founding philosophy of the Republic of Turkey, to appreciate national unity and the country's territorial integrity and to reach the level of developed countries.

Course Code	Course Name	(T,AL)	Credit	ECTS	Core/Elective Course
MTH211	Spherical Trigonometry	(2,1,0)	3	4	Core Course

The course on Plane and Spherical Trigonometry focuses on the study of triangles, their sides, angles, and measurements, with an emphasis on understanding the relationship between them. Students will explore the fundamental concepts and principles of trigonometry to solve various mathematical problems involving triangles.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NRC201	Ship Construction	(2,2,0)	3	4	Core Course

In the course "General Arrangement and Tanker Familiarization," sailors will acquire knowledge about the general arrangement plan of tanker ships and various components of the vessel. They will learn about the layout and design of the ship, including the arrangement of holds, engine room, peak tanks, double-bottom tanks, hatchways, bulkheads, cargo tanks, deck plating, frames, brackets, transverse frames, deck beams, shell plating, and other relevant structural elements. The course will provide sailors with a comprehensive understanding of the minimum requirements for training seafarers on tanker ships, as specified by the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW). They will learn about the essential knowledge and skills needed to operate and work on tanker vessels safely and efficiently.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV213	Navigation III	(3,2,0)	4	5	Core Course

In the course "Coastal Navigation and Voyage Planning," sailors will be introduced to important procedures and techniques involved in navigating along the coast and planning voyages. They will learn about the specific procedures to be followed when navigating in coastal areas, traffic separation zones, straits, and when operating near coasts and in restricted visibility conditions. The course will cover the calculation of the effects of currents and wind on the ship's course and speed. Sailors will also gain an understanding of the basic theory of tides, including spring tides and neap tides, and their impact on navigation. They will learn how to solve tidal problems and calculate tidal streams for main and secondary ports. The course will introduce the concept of the navigational triangle for solving current-related navigation problems.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MEL201	Introduction to Marine Electronics	(2,1,0)	2.5	3	Core Course

The course "Introduction to Electronics" aims to provide students with a comprehensive understanding of electronic components, their characteristics, and their behavior within circuits. The course is designed for engineering students, including those who are planning to pursue careers as captains or mechanics in the maritime industry. The course covers various theoretical topics related to electronics, which are outlined in the "Objectives of the Course" section. Students will be introduced to semiconductors, diodes, and their applications in circuits. They will also learn about transistors, their functions, and how they are utilized in electronic circuits. The course further explores topics such as transistor amplifiers, field-effect transistors, feedback amplifiers, oscillators, power amplifiers, multivibrators, modulation techniques, antennas, and the propagation of electromagnetic waves.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
WAT201	Standards of Watchkeeping II	(2,2,0)	3	4	Core Course

The officer in charge of a navigational watch holds significant responsibilities in ensuring the safety of the vessel. One of their primary duties is to prevent collisions and avoid grounding. They are expected to be knowledgeable about the principles of watchkeeping and proficient in the use and control of navigational equipment. When handing over and taking over watch, proper communication and coordination are essential. The officer should effectively communicate with the incoming and outgoing watchkeepers to ensure a smooth transition and maintain situational awareness. They must also be familiar with navigation procedures when operating with a pilot on board, including coastal navigation and the use of radar in poor visibility conditions.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MEN201	Maritime English I	(2,2,0)	3	4	Core Course

The topics covered in this course include various aspects related to ships, maritime safety, commercial marine business, technical management for mariners, port authority and maritime law, ship and cargo documents, ship registration, ship maintenance and repair, inspection surveys, communication protocols, emergency and safety messages, and medical emergency communications.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
LAW251	Introduction to Law and Maritime Law	(3,0,0)	3	4	Core Course

The course "Maritime Public Law" covers several important topics related to the legal framework governing maritime activities. Students will learn about the main principles and sources of maritime public law, including international conventions, treaties, and national legislation. The course delves into the law of the sea, which encompasses various aspects such as maritime jurisdiction areas, including internal waters, territorial seas, contiguous zones, exclusive economic zones (EEZ), and the continental shelf. The concept of the high seas and international disputes related to high seas activities will also be explored.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SAF214	Maritime Safety III	(2,2,0)	3	5	Core Course

The course "Operation Procedures of Navigation Equipment and Lifesaving Equipment" focuses on providing students with the necessary knowledge and skills to operate navigation equipment and lifesaving equipment in accordance with the STCW (Standards of Training, Certification, and Watchkeeping) regulations. Students will learn about the operation procedures of various navigation equipment, including radar systems, GPS (Global Positioning System), electronic chart display and information systems (ECDIS), and automatic identification systems (AIS). They will understand how to use these equipment effectively for safe navigation and to comply with international regulations.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NRC202	Ship Stability I	(3,1,0)	4	4	Core Course

The course "Ship Dimension, Ship Tonnages, Forces and Moments, Stability, and Ship Strength" covers various aspects related to ship design, dimensions, stability, and strength. Students will learn about ship dimensions, including length overall (LOA), beam, draft, and depth. They will understand how these dimensions affect the performance and characteristics of a ship. The course also introduces ship tonnages, such as gross tonnage (GT) and net tonnage (NT), and explains their significance in terms of ship registration and regulatory requirements.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV214	Navigation IV	(3,2,0)	4	5	Core Course

This course, which is part of the proposed Modular Framework under STCW (Standards of Training, Certification, and Watchkeeping) for vocational and professional qualifications, focuses on providing students with comprehensive knowledge and skills in managing a naval vessel as a Deck Officer and eventually as a vessel captain. The course delves into the theory of celestial navigation, which involves using celestial bodies such as the sun, moon, stars, and planets for determining the position of the vessel. Students will learn about the principles, techniques, and calculations involved in celestial navigation.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV252	Electronic Aids to Navigation I	(2,2,0)	4	4	Core Course

The course "Cyro Compass and Operation Principles, Compass Systems, Sound and Electromagnetic Waves, Navigation Equipment" covers various topics related to advanced navigation equipment and systems used on board ships. Students will learn about the principles of operation of gyro compasses, including cyro compass, Sperry compass, and Anschutz compass. The course will cover topics such as gravity control, oscillation, damping, and the starting procedures of gyro compasses. Additionally, students will study the errors associated with gyro compass readings.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SHA202	Ship Handling and Maneuvering I	(1,1,0)	1.5	4	Core Course

The course "Ship Handling and Manoeuvring" focuses on providing students with a comprehensive understanding of ship handling principles and techniques in various scenarios and environmental conditions. Students will learn about the effects of various factors on ship handling, including deadweight, draught, trim, speed, and under-keel clearance. They will understand how these variables influence turning circles and stopping distances of a vessel.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MMC204	Ports and Terminals	(2,0,0)	2	3	Core Course

The course "Maritime Transport and Port Management" offers fundamental concepts and tools related to various subjects within the field of maritime transport and port management. Its main objective is to provide students with a comprehensive understanding of ship/port operations, harbor activities, and shipyard industry specificities. Students will explore the role and functions of seaports, gaining insights into the responsibilities of organizations, companies, and agencies involved in supporting port operations. The course covers topics such as port infrastructure, port planning and design, port operations and logistics, cargo handling and storage, maritime regulations and policies, and environmental considerations in port management.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SWM202	Swimming	(0,2,0)	1	2	Core Course

The course "Swimming Principles and Practical Application" focuses on teaching seafarers the essential principles of swimming and providing practical training in a pool environment. The primary objective of this course is to ensure that seafarers possess the necessary swimming skills and water survival techniques in case of emergencies or dangerous situations at sea, such as fires or abandoning the ship. Swimming proficiency is crucial for the safety and survival of seafarers during such incidents.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
CRG301	Cargo Handling and Operations I	(2,2,0)	3	4	Core Course

The course "Dry Cargoes, Cargo Handling, and Tanker Operations" covers various aspects related to the handling, stowage, and transportation of different types of cargoes on board ships, including dry cargoes and tanker operations. Students will learn about the inspection and preparation of cargo holds, segregation and separation of different types of cargoes to prevent contamination, and the securing of cargoes to ensure safe transportation. The course will also cover topics such as ventilation and control of sweat in cargo holds, handling of deck cargoes, refrigerated cargoes, and containerized cargoes.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
COM301	Marine Communication I	(2,2,0)	3	4	Core Course

The course "Maritime Communications and Signaling Methods" is part of the proposed Modular Framework for vocational and professional qualifications in Navigation Engineering. It aims to provide students with comprehensive knowledge and skills related to managing a merchant vessel as a Deck Officer and eventually as a vessel captain. The course emphasizes the classification, instruments, and procedures of maritime communications. Students will learn about different communication systems and technologies used in the maritime industry, including radio communications, satellite communications, and electronic messaging systems. They will also study the International Procedures and regulations governing maritime communications for merchant ships in both port and navigation settings, under normal and emergency conditions.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SIM301	ARPA/RADAR Simulator I	(1,4,0)	3	4	Core Course

The course "ARPA (Automatic Radar Plotting Aid), ECDIS (Electronic Chart Display and Information System), and BTM (Bridge Team Management)" focuses on providing students with the knowledge and skills necessary to effectively utilize these advanced navigation systems and implement Bridge Team Management principles. Students will learn about the acquisition of targets, tracking capabilities, and limitations of ARPA, ECDIS, and BTM systems. They will understand the setup and potential errors in interpreting data displayed on these systems.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
GMS301	GMDSS Simulator I	(1,3,0)	2.5	3	Core Course

The course "GMDSS (Global Maritime Distress and Safety System) Simulator and Radio Communication Exercises" focuses on providing students with practical training in distress, urgency, safety, and routine communication procedures using GMDSS simulators and actual radio equipment. Students will participate in exercises that simulate distress situations, allowing them to practice the proper protocols and procedures for initiating and handling distress calls. They will also learn about urgency and safety communications, understanding how to effectively transmit and receive relevant information in different scenarios.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV325	Navigation V	(3,2,0)	4	4	Core Course

The course "Celestial Navigation and Celestial Fix" is part of the proposed Modular Framework under STCW for vocational and professional qualifications in Navigation Engineering. The course aims to provide students with comprehensive knowledge and skills in managing a naval vessel as a Deck Officer and eventually as the vessel's captain. The course covers all aspects of celestial navigation, which involves using celestial bodies such as the sun, moon, stars, and planets to determine the vessel's position. Students will learn about the principles, techniques, and calculations involved in celestial navigation.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV353	Electronic Aids to Navigation II	(2,2,0)	3	4	Core Course

The course "Radar Theory and Operation" covers the fundamental principles and practical aspects of radar systems used in navigation. Students will learn the basic theory of radar, including the fundamental principles of radar operation and the main units that make up a radar system. They will gain an understanding of the types of radar displays, their capabilities, and limitations. The course focuses on setting up and maintaining radar displays, including radar symbols and controls. Students will learn how to interpret and utilize radar information effectively for navigation purposes.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
EMR301	Emergency Procedures	(1,1,0)	1.5	2	Core Course

In the course on emergency procedures and safety, students will learn a comprehensive set of actions and protocols to protect the crew and passengers on board in case of emergencies. The course covers various emergency scenarios such as fire, explosion, collision, grounding, and other critical incidents. Students will learn how to assess the situation, take initial actions to limit damage, and coordinate the response to ensure the safety of the ship and its occupants. The course also includes training on search and rescue operations for both the ship and its crew. Students will learn the proper procedures for conducting search and rescue missions, including the use of emergency equipment and communication systems.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MAN301	Maritime Management I	(2,0,0)	2	5	Core Course

The course for seafarers aspiring to become ship captains is designed to provide them with the necessary knowledge and skills to effectively manage the crew and ensure the safe operation of the ship. This course is in line with the 1995 revision of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW-78).

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
LAW351	Maritime Law and International Conventions I	(3,0,0)	3	4	Core Course

In this module on the international law of the sea, students will be introduced to the comprehensive legal framework governing maritime activities. The module covers various aspects of international law related to the sea, including jurisdictional zones and principles recognized in international law. The module begins by exploring the principles and regulations governing the territorial sea, archipelagic waters, international straits, contiguous zone, continental shelf, exclusive economic zone (EEZ), high seas, and deep seabed. Students will examine the rights and responsibilities of coastal states and the legal implications of these different maritime zones. The module also delves into the resolution of competing claims to maritime areas and resources. Students will learn about the methods and mechanisms available for resolving disputes between states concerning maritime boundaries and resource exploitation.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SGT302	Seagoing training	(0,0,0)	0	25	Core Course

During this period, students will have the opportunity to gain practical experience and apply the knowledge and skills they have acquired in the maritime field. They will join a merchant vessel for onboard field training, which is a crucial component of their training as per the STCW-2010 Manila Amendments and subsequent regulations. The field training period allows students to work in a real-world maritime environment under the guidance of experienced professionals. They will be exposed to various onboard operations and responsibilities, gaining practical knowledge and hands-on experience in areas such as navigation, watchkeeping, cargo handling, safety procedures, emergency response, and ship management. The field training period aims to provide students with a comprehensive understanding of the day-to-day operations and challenges faced onboard a merchant vessel. It enables them to develop practical skills, enhance their decision-making abilities, and apply theoretical concepts in real-life situations. Throughout the field training period, students will be required to meet the minimum requirements specified by the STCW-2010 Manila Amendments. This ensures that they acquire the necessary competencies and experience to progress in their maritime careers and eventually take up roles with increased responsibilities in the industry.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SCD302	Scuba Diving	(3,2,0)	3	4	elective

In this course, students will be required to demonstrate their knowledge and skills in various diving topics, as well as exhibit maturity in making wise decisions during scuba diving activities. The course covers important aspects of diving such as diving physics, medical considerations, first aid procedures, oxygen administration, rescue techniques, underwater navigation, search patterns, buoyancy control, marine environment, marine life, repetitive diving, gas mixes, and dive planning. Students are expected to have their own personal diving equipment that meets the minimum standards set by the Turkish Underwater Sports Federation. This includes equipment suitable for cold-water diving, as per the specific requirements of the course.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
WAT411	Standards of Watchkeeping III	(2,0,0)	2	3	Core Course

The International Regulations for Preventing Collisions at Sea (COLREGs) are a set of rules and regulations established by the International Maritime Organization (IMO) to ensure the safe navigation of vessels at sea and prevent collisions. These regulations provide guidelines for the conduct of vessels in various situations and govern the actions and responsibilities of vessel operators. In this course, students will learn about the International Regulations for Preventing Collisions at Sea and their practical application in maintaining a safe navigational watch. The course will cover topics such as the general principles of the COLREGs, the rights and obligations of vessels, and the actions to be taken to prevent collisions.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SHA401	**Ship Handling and Maneuvering II**	**(2,1,0)**	**2.5**	**3**	**Core Course**

This course focuses on developing the knowledge and skills required for maneuvering and handling ships in various scenarios. Students will learn about approaching pilot vessels, navigating in rivers and estuaries, berthing and unberthing, anchoring, lightening at sea, dry-docking, managing ships in heavy weather, maneuvering in ice, and navigating in traffic separation schemes. The course emphasizes safety considerations, including factors such as weather, tide, current, wind, and restricted water. By the end of the course, students will be equipped with practical techniques and measures to ensure the safe navigation and maneuvering of ships.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
SAF421	**Maritime Safety IV**	**(2,2,0)**	**3**	**3**	**Core Course**

This course serves as a refresher for the basic trainings required by the Standards of Training, Certification, and Watchkeeping (STCW) convention. It covers several key areas related to safety and emergency response on board a ship. The course begins with a focus on firefighting organization, including the roles and responsibilities of crew members in the event of a fire. It also covers the maintenance and proper use of firefighting equipment to ensure its effectiveness during emergencies.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
OCE401	**Oceanography**	**(2,1,0)**	**2**	**2**	**Core Course**

The courses in Chemical Oceanography, Physical Oceanography, Marine Biology and Fisheries, and Marine Geology and Geophysics provide students with a comprehensive understanding of the marine environment. Chemical Oceanography focuses on the chemical properties of the ocean system, including nutrient cycles and pollution. Physical Oceanography examines waves, currents, and their impact on climate. Marine Biology and Fisheries explore marine life, energy fixation, and fisheries management. Marine Geology and Geophysics cover geological features of the marine environment and methods used to study them. These courses equip students with knowledge and skills to address marine issues and contribute to scientific research.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NRC411	Ship Stability II	(3,1,0)	4	4	Core Course

This course focuses on various aspects of stability and calculations related to ship operations. Sailors will learn about the approximate calculation of areas and volumes, taking into account the effects of density. They will also study the stability of the ship at different angles of heel, considering trim and list. The course covers dynamic stability and methods for determining the approximate metacentric height (GM) through rolling period tests and inclining tests. Intact stability requirements for passenger and cargo ships under 100 meters in length will be discussed, along with specific requirements for the carriage of grain. The course also addresses the rolling of ships and the procedures involved in dry docking and grounding. Sailors will gain an understanding of shear force, bending moments, and torsional stress in ship structures. The course includes training on damage control and flooding of compartments, with a focus on the effects of flooding on transverse stability and trim. Sailors will also learn about draft survey techniques for accurately measuring the cargo load on board. Overall, this course equips sailors with the knowledge and skills necessary to ensure the safety and stability of the ship during various operational scenarios.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
NAV425	Navigation VI	(2,1,0)	3	4	Core Course

In this course, sailors will learn how to plan voyages using nautical publications and pilot charts. They will consider factors such as distance, meteorological conditions, and oceanographic information. By utilizing these resources, sailors will be able to effectively plan their voyages, ensuring safety and efficiency.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MMC403	Maritime Economics	(2,2,0)	3	4	Core Course

In this course, students will be introduced to the fundamentals of economics and its application to the shipping industry. They will explore the relationship between supply and demand in shipping, focusing on the specific case of fish transportation. The concept of economies of scale will be discussed, highlighting how larger vessels can achieve cost efficiencies. The course will also cover competitive shipping markets, such as tramps, charters, and tankers, as well as non-competitive markets like liner conferences. Students will learn about the role of seaways, canals, and ports in facilitating global trade and shipping. Voyage estimating, international trade, and shipping's impact on balance of payments and exchange rates will also be explored.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
MEN401	Maritime English II	(2,2,0)	3	4	Core Course

In this course, students will learn the IMO standard marine communication phrases used in ship-to-shore and shore-to-ship written communications. They will be trained in preparing reports, writing Notices of Readiness (NOR), and drafting sea protests. The course is designed to meet the requirements of the STCW/95 Convention Chapter II Section A-II/1, which focuses on developing the necessary Maritime English skills to support navigation at the operational level. By the end of the course, students will have a solid understanding of effective written communication in the maritime industry and be able to apply these skills in practical scenarios.

Course Code	Course Name	(T,A,L)	Credit	ECTS	Core/Elective Course
LAW451	Maritime Law and International Conventions II	(2,2,0)	3	4	Core Course

In this course, students will be introduced to Maritime Private Law, which encompasses topics such as tort and contractual liability in the maritime context. They will gain an understanding of the fundamental principles and concepts of Maritime Law, including the legal aspects related to ships, registration, flag, and seaworthiness. The course will cover the duties, authorities, and responsibilities of the Master of a ship, as well as the rights and responsibilities of the shipowner. Students will also learn about various shipping contracts that are commonly used in the maritime industry.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
CRG412	Cargo Handling and Operations II	(2,2,0)	3	4	Core Course

This course covers various aspects of dry cargoes in the maritime industry. Students will learn about timber cargoes, including loading, stowage, and discharge procedures. They will also learn about receiving, tallying, and delivering cargo. Emphasis is placed on the proper care and handling of cargo during carriage. The course covers cargo handling gear, hatch covers, and the maintenance requirements for both. Dangerous, hazardous, and harmful cargoes are discussed, along with regulations and precautions. Solid bulk cargoes and the SOLAS-74 grain rules are also covered. Tanker operations, including pollution prevention regulations and cargo operations in gas and chemical tankers, are explored. The course also touches on fumigation methods and cargo calculations. Overall, the course provides a comprehensive understanding of dry cargoes and their handling in the maritime industry.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
COM412	Marine Communication II	(2,2,0)	3	4	Core Course

This course is designed to provide students with the necessary knowledge and skills to effectively manage a merchant vessel as a Deck Officer and eventually as a captain. The focus of the course is on classification, instruments, and procedures related to maritime communications. Students will learn about various signaling methods used to transmit and receive information in accordance with international procedures. The course covers communication protocols for merchant ships in both normal and emergency conditions, whether in port or during navigation. By the end of the course, students will have a comprehensive understanding of the importance of effective maritime communications and how to apply the necessary procedures to ensure safe and efficient operations on board a merchant vessel.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
SIM402	ARPA/RADAR Simulator II	(1,4,0)	3	4	Core Course

This course focuses on ARPA (Automatic Radar Plotting Aid) systems and their usage in maritime navigation. Sailors will learn about the acquisition of targets, tracking capabilities, and limitations of ARPA. They will gain knowledge on setting up ARPA systems, identifying and rectifying errors in interpretation, and conducting operational tests. The course emphasizes obtaining accurate information from ARPA displays to support safe navigation and decision-making. By the end of the course, sailors will have a comprehensive understanding of ARPA systems and their effective utilization in maritime operations.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
GMS402	GMDSS Simulator II	(1,3,0)	3	4	Core Course

In this course, sailors will undergo training in various aspects of maritime communication. They will engage in exercises using GMDSS simulators and actual radio equipment to practice distress, urgency, safety, and routine communication procedures. Radiotelephony communication and exercises related to the Standard Marine Communication Phrases (SMCP) will also be covered. Additionally, sailors will learn about search and rescue (SAR) operations and participate in exercises related to SAR procedures. The course will include training on ship radio station watchkeeping procedures and exercises on the International Code of Signals. The goal of the course is to develop sailors' proficiency in maritime communication, ensuring effective and safe communication practices at sea.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
MRE412	Introduction to Marine Engines II	(2,0,0)	2	3	Core Course

At the end of the second semester, students will participate in a two-month summer internship program focused on ship-to-ship machinery. This internship aims to provide students with practical experience and basic knowledge related to ship machinery operations. During the internship, students will have the opportunity to work onboard ships and gain hands-on experience in operating and maintaining various machinery systems. The internship will serve as a valuable preparation for their future careers as maritime professionals, allowing them to apply their theoretical knowledge in a real-world setting.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
MAN402	Maritime Management II	(2,0,0)	2	5	Core Course

Seafarers undergo training as per the 1995 revision of the STCW-78 convention to become ship captains. The training equips them with the necessary knowledge and skills to manage the crew and ensure the safe operation of the ship. They learn about crew coordination, leadership, communication, emergency response, navigation, and maritime regulations. The training covers shipboard operations, safety procedures, and regulatory compliance. Seafarers gain practical experience and theoretical understanding to navigate different trading routes, handle cargoes, manage resources, and comply with international maritime laws. The training emphasizes decision-making, risk assessment, problem-solving, and effective communication skills. After completing the training, seafarers are prepared to assume the role of a ship captain and fulfill their responsibilities in maintaining the safety and efficiency of the vessel and its crew.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
MMC402	Ship Chartering and Brokering	(3,0,0)	3	3	Core Course

The course on chartering practice focuses on equipping students with the skills and knowledge necessary for successful chartering negotiations. Students learn about market analysis, freight rates, charter party agreements, risk assessment, and legal considerations. Emphasis is placed on developing negotiation skills and the ability to make informed decisions based on market conditions. The course also covers risk management strategies and prepares students to navigate the complexities of chartering practice effectively.

Course Code	Course Name	(T,U,L)	Credit	ECTS	Core/Elective Course
FGP499	Graduation Project	(0,6,0)	3	5	Core Course

In this course, students will engage in theoretical and technological investigations to solve a well-defined problem in their field of study. They will conduct research, analyze data, and apply relevant theories and technologies to address the problem at hand. The focus is on practical problem-solving and finding innovative solutions. Once the problem has been successfully solved, students will be required to present their findings using visual tools. This may include creating graphs, charts, diagrams, or other visual representations to effectively communicate their results. The objective is to present the research outcomes in a clear and visually appealing manner that facilitates understanding and engages the audience. By combining theoretical knowledge, technological expertise, and effective visual presentation skills, students will not only demonstrate their understanding of the subject matter but also showcase their ability to apply their knowledge to real-world problems and communicate their findings effectively.