Final Brochure

MINE-EMI Project:
Maritime Innovative
Network of Education
For Emerging Maritime Issues
TABLE OF CONTENTS

About the Project...........................................................................................................03
Joint Master Programme..............................................................................................04
  Module I: Port Management and Logistics
  Module II: Port and Ship Operations
  Module III: Integrated Maritime Planning
Course descriptions.....................................................................................................08
Project Achievements...............................................................................................07
Recommendations.......................................................................................................08
ABOUT THE PROJECT

The Maritime Innovative Network of Education for Emerging Maritime Issues (MINE-EMI) project is a cooperation project funded by the Erasmus+ Programme of the European Union, aimed at boosting sustainable European maritime economy, Blue Growth, and Integrated Maritime Policy implementation by providing modern and adequate education and training. The project was led by the Pîrî Reis University (Türkiye) and had a duration of 3 years, from September 2019 to August 2022.

MINE-EMI project focused on the elaboration of a Joint Master Programme (JMP) that facilitates the development of skills and competences to raise awareness on emerging maritime issues in the wider Black Sea region. Additionally, the MINE-EMI project tackled the promotion of sustainable management of the maritime sector in the wider Black Sea region.

PROJECT OBJECTIVES

The MINE-EMI project was aimed at the:

- **promotion** of the quality of education and training in the Maritime Education and Training (MET) sector to address the specific maritime challenges and prepare the future managers and experts applying innovative methods, practical oriented approach and e-learning model;

- **facilitation** of the mobility for students and teachers, involving educational and training institutions that wish to contribute to overcoming these challenges;

- **cooperation** between MET organizations and industry in the field of education and training for managing the issues in the maritime sector for upgrading competencies and adapting to the requirements of the maritime industry.

The MINE-EMI project partnership involved representatives from the business sector and local administrations in order to fill the gap between the requirements of the maritime sector (management, transport operations, logistic) and the current lack of educational offer in those areas.

PROJECT PARTNERS

- Pîrî Reis University (Türkiye)
- Constanta Maritime University (Romania)
- Marine Cluster Bulgaria (Bulgaria)
- Nikola Vaptsarov Naval Academy (Bulgaria)
- Conference of Peripheral Maritime Regions (Europe)
- University of the Aegean (North Aegean Region, Greece)
- Municipality of Piraeus (Attica Region, Greece)

CONTEXT

Maritime shipping industry is one of the most dynamic economic sectors throughout Europe due to the constant changes of its development needs. It is also closely linked to the changes in Marine Sciences and IT Technologies. Consequently, education and training in marine sciences have to follow closely the industry’s trends in order to keep pace with the new competencies required by the development of maritime transportation technologies.

In the longer term, the objective of the project is to establish a “Black Sea Community of Maritime Education and Training Institutions” to contribute to a strong sustainable European maritime economy, Blue Growth, and Integrated Maritime Policy implementation by providing modern and adequate education and training.
INITIAL RESEARCH

The initial research phase of the project started in September 2019. At this stage, a comprehensive need analysis was carried out to determine the needs and demands of the maritime sector. The benchmarking studies involving Maritime Education and Training (MET) institutes around the world was also conducted at this stage. It aimed to identify the gap between the maritime sector needs and demands determined by the need analysis and the comparison of existing MET programs. After that, Joint Master Programs (JMP) drafts were prepared through workshops conducted with the participation of experts from the project partners.

COURSE PREPARATION

In the next phase the contents of the program courses were determined, and their syllabuses were prepared. Then, the preparation of course materials and research on the determination of evaluation and assessment methods and simulations took place.

With the Stakeholder Conferences, six of which have been held within the period of the project, the opinions of the maritime stakeholders were taken on the adequacy of the program to meet the needs and demands, and the program was continuously updated according to inputs received from them. The content and materials of the prepared courses were tested with student mobility activities. The preparation phase of the project was completed as of September 2022, while administrative work continues to implement JMP in the academic programs of partner universities.

The JMP has been developed with the aim of responding to the executive personnel demands of maritime companies. For this purpose, it is open to post graduate candidates who do not have a background in maritime education. The program includes a one-semester preparatory period for these candidates. The JMP has been prepared as three modules. These modules are arranged to be given in two semesters in the first year of the program.

These modules are:

- **PML**: Port Management and Logistics,
- **PSO**: Port and Ship Operations
- **IMP**: Integrated Maritime Management

The second year of the program was allocated for the preparation of 60 ECTS field studies and work-based projects.

Three main programs/modules have 2-3 compulsory and 3-4 elective units for each program to be decided in consensus. Each partner contributed to the content development. Each unit will be available at least in one partner university in every academic semester. Students may opt for any available course from any university under either physical or virtual mobility. The students will be able to select their dissertation topic and supervisor from any partner university.

The JMB (Joint Management Board) established by the partner universities will coordinate all these activities. The JMB will be maintained beyond the project life cycle and chaired on a rotational basis.

Recognition of the courses will be under Erasmus ECTS system under each partner’s own regulations. However, in the future the partners will consider delivering an additional joint diploma/certificate for the graduates of these programs. IMO recognition/accreditation for the program will be also sought.
# Module I: Port Management and Logistics (PML)

<table>
<thead>
<tr>
<th>Year-Semester</th>
<th>MINE-EMI JMP Curriculum PML Module</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepory (30 ECTS)</td>
<td><strong>Preparatory</strong>&lt;br&gt;Introduction to Maritime Business &amp; Shipping - 8 ECTS&lt;br&gt;Port Management and Logistics - 8 ECTS&lt;br&gt;Contemporary Issues in Maritime Management - 7 ECTS&lt;br&gt;Maritime Law - 7 ECTS</td>
<td>Compulsory for students with a non-maritime educational background</td>
</tr>
<tr>
<td>First year</td>
<td><strong>First semester (30 ECTS) (6 courses)</strong>&lt;br&gt;Statistics for Business - 6 ECTS.&lt;br&gt;Sustainability and Environment Policies - 6 ECTS&lt;br&gt;Research Methodologies and Ethics - 6 ECTS&lt;br&gt;Maritime Economics - 4 ECTS&lt;br&gt;Maritime Leadership and Soft Skills - 4 ECTS&lt;br&gt;Strategic Management - 4 ECTS&lt;br&gt;Automation and Maritime Cyber Security - 4 ECTS&lt;br&gt;Maritime Policy and Shipping Management - 4 ECTS&lt;br&gt;Maritime Law - 7 ECTS</td>
<td>Compulsory&lt;br&gt;Elective (3 course to be chosen)</td>
</tr>
<tr>
<td>First year</td>
<td><strong>Second semester (30 ECTS) (6 courses)</strong>&lt;br&gt;Port Centered Logistics - 6 ECTS&lt;br&gt;Supply Chain Risk Management - 6 ECTS&lt;br&gt;Sustainable shipping and ports - 4 ECTS&lt;br&gt;Environmental policy - 4 ECTS&lt;br&gt;Maritime security law and policy - 4 ECTS&lt;br&gt;Sustainable Warehouse and Distribution Management - 4 ECTS&lt;br&gt;Maritime Stakeholders’ Management - 4 ECTS&lt;br&gt;Green Logistics - 4 ECTS&lt;br&gt;Port Design and Development - 6 ECTS&lt;br&gt;Green Ports - 6 ECTS&lt;br&gt;Blue Growth - 6 ECTS&lt;br&gt;Maritime Spatial Planning and Intercoastal Zone Management-6 ECTS</td>
<td>Compulsory&lt;br&gt;Elective (1 course to be chosen)</td>
</tr>
<tr>
<td>Second year</td>
<td>Field study and work-based project</td>
<td>Compulsory</td>
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# MODULE II: PORT AND SHIP OPERATIONS (PSO)

## MINE-EMI JMP Curriculum PSO Module

<table>
<thead>
<tr>
<th>Year-Semester</th>
<th>MINE-EMI JMP Curriculum PSO Module</th>
<th>Status</th>
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</thead>
</table>
| **Preparatory** (30 ECTS) | Introduction to Maritime Business & Shipping - 8 ECTS  
Port Management and Logistics - 8 ECTS  
Contemporary Issues in Maritime Management - 7 ECTS  
Maritime Law - 7 ECTS | Compulsory for students with a non-maritime educational background |
| **First semester** (30 ECTS) (6 courses) | Statistics for Business - 6 ECTS  
Sustainability and Environment Policies - 6 ECTS  
Research Methodologies and Ethics - 6 ECTS  
Maritime Economics - 4 ECTS  
Maritime Leadership and Soft Skills - 4 ECTS  
Strategic Management - 4 ECTS  
Automation and Maritime Cyber Security - 4 ECTS  
Maritime Policy and Shipping Management - 4 ECTS  
Multimodal Transport Operations - 4 ECTS | Compulsory  
Elective (3 course to be chosen) |
| **Second semester** (30 ECTS) (6 courses) | Port Design and Development - 6 ECTS  
Green Ports - 6 ECTS  
Sustainable shipping and ports - 4 ECTS  
Environmental policy - 4 ECTS  
Maritime security law and policy - 4 ECTS  
Port Administration and Management - 4 ECTS  
Sustainable Management of Coastal Margins - 4 ECTS  
Marine Sports Science - 4 ECTS  
Port Centered Logistics - 6 ECTS  
Supply Chain Risk Management - 6 ECTS  
Blue Growth - 6 ECTS  
Maritime Spatial Planning and Intercoastal Zone Management - 6 ECTS | Compulsory  
Elective (1 course to be chosen) |
| **Second year** (60 ECTS) | Field study and work-based project | Compulsory |
# Module III: Integrated Maritime Planning (IMP)

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<thead>
<tr>
<th>Year-Semester</th>
<th>MINE-EMI JMP Curriculum IMP Module</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Prepory (30 ECTS)</td>
<td>Introduction to Maritime Business &amp; Shipping - 8 ECTS, Port Management and Logistics - 8 ECTS, Contemporary Issues in Maritime Management - 7 ECTS, Maritime Law - 7 ECTS</td>
<td>Compulsory for students with a non-maritime educational background</td>
</tr>
<tr>
<td>First year</td>
<td>Statistics for Business - 6 ECTS, Sustainability and Environment Policies - 6 ECTS, Research Methodologies and Ethics - 6 ECTS, Maritime Economics - 4 ECTS, Maritime Leadership and Soft Skills - 4 ECTS, Strategic Management - 4 ECTS, Automation and Maritime Cyber Security - 4 ECTS, Maritime Policy and Shipping Management - 4 ECTS, Multimodal Transport Operations - 4 ECTS</td>
<td>Elective (3 course to be chosen)</td>
</tr>
<tr>
<td></td>
<td>Blue Growth - 6 ECTS, Maritime Spatial Planning and Intercoastal Zone Management - 6 ECTS</td>
<td>Compulsory</td>
</tr>
<tr>
<td></td>
<td>Sustainable shipping and ports - 4 ECTS, Environmental policy - 4 ECTS, Maritime security law and policy - 4 ECTS, Ecosystem management - 4 ECTS, Coastal and marine pollution - 4 ECTS, Marine Utilization Management - 4 ECTS, Port Centered Logistics - 6 ECTS, Supply Chain Risk Management - 6 ECTS, Port Design and Development - 6 ECTS, Green Ports - 6 ECTS</td>
<td>Elective (3 course to be chosen)</td>
</tr>
<tr>
<td>Second year</td>
<td>Field study and work-based project</td>
<td>Compulsory</td>
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INTRODUCTION TO MARITIME BUSINESS & SHIPPING

The main subject of the maritime business is the shipping industry and the productive activities that take place in or around it. The basic production process carried out by the shipping industry is the provision of maritime transport services by shipping companies. But in order for a maritime service to be produced it is necessary to precede or follow a series of other productive activities from which the demand for maritime transport services will arise. In order to achieve this goal, at the same time, infrastructure activities must precede or follow. These activities include shipbuilding and ship repairs, ports, regulatory bodies, classification societies, underwriters and other entities. Finally, to produce maritime service it is necessary to combine the elements of production as labor, capital and of course the sea. It is therefore obvious that in the context of maritime studies a wide range of sectors and activities with their own particularities and their own laws are examined. The aim of the course is to briefly examine as much of the shipping industry as possible.

PORT MANAGEMENT AND LOGISTICS

This course presents an overview of the maritime transport management, maritime logistics, and the topics include functions of maritime transport, components in maritime management, and contemporary issues and practices in maritime management topics.

CONTEMPORARY ISSUES IN MARITIME MANAGEMENT

This course presents an overview of the global economy and maritime transport, evolution in maritime transportation types and traded products, the effects of containerization, possible impacts of containerization in the future, alliances in maritime transport, vertical development of the maritime transport industry with other related sectors, autonomous ships and new requirements related to autonomous shipping, green shipping, green ports, digitalization in maritime industry and maritime security.

MARITIME LAW

The course focuses on the legal aspects of shipping and the transportation of goods. It gives extensive coverage of the special liability rules that apply at sea, carriage of goods, contracts of affreightment and marine insurance. Other topics include contract practices, modern developments (such as electronic bills of lading), the relation to international law (IMO treaties), organizational matters in shipping and traditional maritime law topics like salvage and general average.

STATISTICS FOR BUSINESS

This course gives an introduction to statistical techniques for business processes and management. The information era impacts heavily how we conduct business in the 21 century. Managers have access to large data sets provided by business intelligence systems, public media, social media. Big data is a reality and requires new ways and new approaches to the information as an asset. In this course, we will teach students skillsets around quantitative reasoning for business decision making. Managers utilize those tools when they solve problems of varying complexity under economic uncertainties. We will focus on quantitative decision analysis and its paradigms. It developed around the idea to formalise rationality through quantifiable parameters and make choices based on robust criteria under risk. The quality of this process is the path to effective and efficient decision making. Such techniques are crucial in practical examples from various areas of business and management, and we will follow such examples from transport management and maritime transport. We also discuss simulation modelling techniques as the newest advance in statistical and business analytics. We discuss its essence, rationale and applications. Emphasis would be given to problems in transport management (specifically maritime transport). It allows students to understand and apply advanced business analytics tools in a computer-intensive environment and to communicate with analytics professionals to effectively use and interpret analytical models and results for better decision making. There is a descriptive, predictive, and prescriptive approaches offered in the unit.
SUSTAINABILITY AND ENVIRONMENT POLICIES

The following topics will be developed to enable students to devise their own set of principles for understanding sustainability and environment policies.

• This course will first explore the rise of the environmental agenda in the 1960s and in particular the main events which brought it to public and scientific attention.
• The concepts of ‘sustainability’ and ‘sustainable development’ etc will be discussed in the context of the history of the concepts as well as the terms themselves and their contemporary significance.
• The commonly cited principles of sustainability (e.g. inter-generational equity, precautionary principle etc) will be explored together with the limitations imposed by physical and natural laws.
• The possible responses (scientific, technological, economic, political, social and personal) will be reviewed and their potential to bring about desired change will be discussed.
• Through examination of international, national, and local agreements on sustainability, students will critically review the motivations for, and implementation of, such policies.
• Approaches to dealing with particular issues encountered in professional life (such as environmental reports, environmental management systems, energy management, recycling, impact on biodiversity) will be considered.
• Opportunities will be provided for course members to review individual ethics and consider the implications of adopting the principles of sustainability to professional practice.

MARITIME ECONOMICS

Course aims at introducing students to the economics of the shipping industry through analyzing the factors that shape the demand and supply per shipping market as well as the endogenous and exogenous conditions that affect the evolution of each market.

RESEARCH METHODOLOGIES AND ETHICS

This course aims to provide students with the knowledge and skills necessary to identify and address a research problem. To this end, students will develop an understanding of the relevant approaches and elements of conducting research to solve a problem. The course is also designed to make students gain insight about research ethics and prevent unethical behaviour. By setting ethical considerations of undertaking research at the centre, students will be provided with the necessary knowledge and skills in the following areas: identifying research problems and questions; deciding research objectives; designing research methodology incorporating research objectives; critically reviewing literature, collecting secondary and primary data, sampling, analysing data and reporting findings.
MARITIME LEADERSHIP AND SOFT SKILLS

In an era of continuous developments, changes and challenges for the shipping industry, shipping related organizations often look for leaders guidance. Shipping companies are seeking for high quality leadership and excellent change management, crucial for the success and the survival of a shipping company in this highly specialized and volatile environment. Also, the same nature of the shipping industry, a truly globalized activity operating in a multicultural environment, calls for leadership skills for those pursuing a career in shipping. The course will heavily base on presenting and analyzing real case of leaders. The course structure aims at developing a leadership program focused on early entrants in the industry and on the ship officers. The course is structured on three distinct pillars:

1. The provision of fundamental leadership and team-building concepts via content-led delivery
2. The stimulation of greater collaboration, team working and leadership attitudes through case studies and practical exercises.

Creating a sense of leadership initiative among the trainees.

STRATEGIC MANAGEMENT

The course is designed to provide knowledge to students on general concept, processes and techniques of strategic management and to improve the ability to make and explore an organization’s vision, mission, management principles, techniques and models of organizational and environmental analysis, discuss the theory and practice of strategy formulation and implementation such as corporate governance and business ethics for the development of effective strategic leadership. Current management issues on maritime organizations and operations on strategic level will also be discussed.

AUTOMATION AND MARITIME CYBER SECURITY

The course is designed to introduce the topic of ICT systems and cyber security in marine domain and to establishes the background and motivation for this topic. The course provides an overarching view of the key elements of ICT system implemented to support management and control functions in maritime domain, as well as the required cyber security measures. This is followed by a discussion of the current, emerging and potential strategies to introduce more sustainable practices, the different actors involved and also the importance and changing nature of national and international regulation. The structure of the course introduces a brief outline of each topic included. Finally, the course concludes with thoughts on developing trends and the future organisational and/or technical performance of the maritime ICT and cyber security sector.

MARITIME POLICY AND SHIPPING MANAGEMENT

The aim of the course is to analyze the modern operating environment of the shipping industry, as it is shaped by the international regulatory framework and shipping policies at national and regional level. Particular focus is placed on the process of shaping shipping policies, the involvement and influence of the social partners and the effects on the decisions of shipping companies.
PORT CENTERED LOGISTICS

This course presents an overview of the Port organization and management, Port safety and security, Role of statutory bodies and other stakeholders, Port indicators, technical planning and management, supply chain management principles, Intermodal freight transport and logistics, maritime logistics, supply chain integration of shipping companies, concept of port logistics, IT-based logistics systems, dry port concept, logistics hub and its application for container ports.

SUPPLY CHAIN RISK MANAGEMENT

Nowadays, Risk Management has been in the forefront of business, especially as regards supply chains. This module aims in introducing the fundamental pillars of Supply Chain Risk Management and identify the best-practices that contribute to mitigating risk through a theoretical framework, but also measuring the potential impact of disruptions in supply chains through risk management tools and techniques.

SUSTAINABLE SHIPPING AND PORTS

Global developments are pushing traditional port models to evolve into ‘modern-ports’ by demonstrating compliance and enforcing current practices. This course has been developed to introduce best-practices and principles which can facilitate decision-making strategies when applying management tools.

MULTIMODAL TRANSPORT OPERATIONS

The course is designed to provide additional knowledge for multimodal transport concept and practise. The materials include: general overview of cargo transportation process, specific characteristic and operations related to each mode of transportation, aspects of cargo consolidation, cargo documents and factors influenced for critical-decision-making and routing choices.

ENVIRONMENTAL POLICY

This course is designed to introduce the topic of Marine Environmental Policy and to establish the background and motivation for this initiative. The course provides an overarching view of the key elements of environmental issues in shipping, particularly from the port perspective. This is followed by a discussion of the current, emerging and potential strategies to introduce more sustainable practices, the different actors involved and also the importance and changing nature of national and international regulation. The structure of the course introduces and a brief outline of each topic is presented. Finally, the course concludes with thoughts on developing trends and the future environmental performance.

MARITIME SECURITY LAW AND POLICY

The course is designed to provide students with additional knowledge on maritime security concept and the legal framework who conduct to a better understanding on threats to the safety of navigation, human life at sea and maritime trade practise. The policy at international level is presented to create a comprehensive overview on that specific aspect. The course identified a number of criminal acts that threaten maritime peace and maritime security like terrorism at sea, piracy, armed robbery, trafficking in narcotics and persons. The cybersecurity is also an actual very important phenomenon in the maritime domain who could affect the entire economic sector. The course is explaining and showing the main international entities in front line struggling to supress and eradicate the criminal acts on maritime domain. The students will be aware with main security aspects regarding their future work on board vessel and adjacent shipping domain.
SUSTAINABLE WAREHOUSE AND DISTRIBUTION MANAGEMENT

Warehouse and Distribution management are part of Logistics management within the supply chain are a value-adding service that aims in efficient control and management of the flow and storage of goods. This course describes the functions of warehouse and distribution activities while emphasizing on their sustainable development towards gaining a competitive advantage.

MARITIME STAKEHOLDERS’ MANAGEMENT

The course is designed to help students to understand the significance of the relevant stakeholders’ role in the ports’ sustainability. It analyzes the different stakeholders’ participation in sustainable development issues, such as the conflicts of interests they have. On completion of the course students will have the ability to apply the knowledge of science in the field of Port Stakeholders’ Management.

GREEN LOGISTICS

Logistics management aims in the coordination of the activities needed for the movement of cargo through the supply chain in an efficient manner. Recent environmental concerns have had an impact on this sector in terms of considering the external costs. This course aims in the comparison traditional methods with greener ones and the reduction of environmental impact.

SUSTAINABLE MANAGEMENT OF COASTAL MARGINS

This course presents an overview of the Sustainable Management of Coastal Margins, discusses the integrated coastal zone management conceptually, reveals the current situation and legal legislation in European countries, Mediterranean and Black Sea Basins, and introduces the effects of global warming on sustainable management.

PORT ADMINISTRATION AND MANAGEMENT

The course is designed to acquaint the trainees with the modern forms of port management which show a new type of ratio between the public and the private sector and present new ways to unite and coordinate different interests. Globally, over the last three decades, there has been a shift from highly centralized government, dominated by the public sector, to joint management of the ports in the form of public-private partnerships. The analyzes of the ongoing processes show an increase in the adaptability of the ports to the changes in the maritime industry (containerization, specialization, concentration of flows) and to the strategies of the participants in the transport sector (horizontal and vertical integration, privatization, etc.). The worldwide existence of various models of port management, which have proven their effectiveness, is due to the influence of various factors (historical development of the port, types of cargo handled, location of the port, etc.); therefore the course does not aim to make recommendations for “good” port management. It draws students’ attention to the strengths and weaknesses of the five modern types of port organization depending on whether the management of the infrastructure, superstructure, operations and other services is dominated by the public or private sector. The course examines strategies implemented by the governments and port management to increase the efficiency of public ports and to involve the private sector in the form of various public-private partnerships. It also discusses strategies for cooperation between the port authorities and the various participants in the supply chain in developing integrated approaches to the development of business opportunities. At the end of the course students have the opportunity to get acquainted with specific management models of several ports, to analyze the strengths and weaknesses of the port structure, to make recommendations for improving the port management.
GREEN PORTS

This course is designed to introduce the topic of green ports and to establish the background and motivation for this initiative. The course provides an overarching view of the key elements of environmental issues in shipping, particularly from the port perspective. This is followed by a discussion of the current, emerging and potential strategies to introduce more sustainable practices, the different actors involved and also the importance and changing nature of national and international regulation. The structure of the course introduces and a brief outline of each topic is presented. Finally, the course concludes with thoughts on developing trends and the future environmental performance of the port sector.

BLUE GROWTH

The course is designed to help students understand the complexity of the concept “Blue Growth” and its’ different interpretations across the world. It analyses the initiatives by institutions as the UN, OECD, World Bank and especially the EU. During the courses, the participants will have the chance to learn about the contribution of the Blue Economy sectors to social equity, economic sustainability and the protection of the ecosystem. Furthermore, the potential negative results of improper development of the Blue Economy will be analysed in order for the students to have a clear picture about the opportunities and the risks of the improper implementation of this activity. On completion of the course students will have obtained a deep knowledge about the significance of the blue growth activities to the sustainable development.

MARINE SPORTS SCIENCE

The course aims to familiarize the students with the marine recreational/boating industry’s characteristics as part of the maritime industry and transfer to trainees’ knowledge, skills, and attitudes for basic handling sailboat and practice seamanship techniques. It also enriches the trainees’ maritime culture, teamwork skills, and effective communication in a marine environment and presents marine sports’ potential as part of the sea city industry.

MARITIME SPATIAL PLANNING AND INTERCOASTAL ZONE MANAGEMENT

Throughout history, the vast majority of human settlements have been in coastal areas. In this process, resources and services provided by the seas and oceans were widely used by communities. However, increasing diversity and intensity of human activities and population pressure make their effects felt in the coastal and marine areas. The coexistence of human activities and the resources and services provided by the maritime environment often creates usage conflicts in the maritime and coastal areas. Management strategies and policies, such as Maritime Spatial Planning (MSP) and the Integrated Coastal Zone Management (ICZM), are an important tool to minimize, eliminate or ensure interoperability of these conflicts. The development of a coastal and marine spatial planning system provides an opportunity to implement an overall conservation, sustainability and management strategy to maximize future economic profits. This course aims to teach existing and emerging theories and current practices regarding the management of marine and coastal areas.
ECOSYSTEM MANAGEMENT

This course provides an introduction to concepts in marine ecology and ecosystem management. It provides advanced information on understanding and management of biological and physical ecological forces in the marine environment and how to manage them. This interdisciplinary course offers a unique curriculum that allows you to gain both theoretical and practical experience with case studies, group presentation and discussion skills.

COASTAL AND MARINE POLLUTION

The course provides specialized knowledge of the current pollution state of the World Ocean and modern approaches to environmental safety. The littoral zone is defined by means of complex systems in order to identify structural and functional aspects of the ecosystem. Sources of pollution and their specifics in the littoral zone are systematized. Major factors of sustainability of ecosystems in coastal zones and in maritime areas are revealed and examined by means of SWOT-analyze. The course consists of theoretical lessons combined with case studies and group discussions on topical problems. Field study, followed by Laboratory work will give an additional practical experience.

MARINE UTILIZATION MANAGEMENT

According to FAO records, the percentage of fish stocks at biologically sustainable levels decreased from 90% in 1990 to 65.8% in 2017. The condition of world fish stocks continues getting deteriored. On the other hand, there are positive developments in areas where successful Marine Utilization management is applied. Uneven developments in fisheries management highlight the urgent need for replication and readjustment of successful applications. This course aims to introduce the methods and measures to be taken to ensure the sustainability of fisheries and aquaculture worldwide. It offers a unique curriculum that allows you to gain both theoretical and practical experience with case studies, group presentation and discussion skills.
PROJECT ACHIEVEMENTS

1 RAISING AWARENESS ON THE POTENTIAL OF THE BLACK SEA MARITIME SECTOR

Raised awareness on the great potential of the Black Sea region for contributing to the Common Maritime Agenda, in particular to goal 2: A competitive, innovative and sustainable blue economy for the Black Sea.

2 MAPPING THE NEEDS IN THE FIELD OF MARITIME EDUCATION AND TRAINING

Mapped new trends and expected needs for training and education in the Black Sea region with key contributions from the business sector.

3 CONTRIBUTING TO THE SUSTAINABLE DEVELOPMENT OF THE WIDER BLACK SEA REGION

Consolidated the efforts of maritime institutions to contribute to sustainable development through the implementation of blue growth, green transport, maritime spatial planning policies and common maritime basin strategies.

4 SHOWCASING THE POWER OF ADDRESSING COMMON CHALLENGES TOGETHER

Gave more visibility to and helped stakeholders to learn about and promote their regions’ richness and diversity, and benefit from their potential. Gathered and used lessons learned.

5 BRINGING TOGETHER A WIDE RANGE OF STAKEHOLDERS IN THE BLACK SEA AREA AND PROMOTING EXCHANGES AMONG THEM

Promoted exchanges and best practices in the region. Supported partnerships and paved the way for future opportunities for cooperation.

6 MAKING THE VOICE OF THE WIDER BLACK SEA REGION HEARD AT EU LEVEL

Offered speakers and stakeholders a platform to better disseminate their potential and actions at European level.

7 PAVING THE WAY FOR FUTURE EU COOPERATION

Pointed to opportunities and challenges for a better involvement of local and regional stakeholders in the Common Maritime Agenda.