

Master in **Maritime Logistics**

An innovative international program

Master Structure

1st Term

Course	ECTS
Introduction to Maritime Logistics	6
Operations Management	3
Maritime Logistics Technology	3
Maritime Business Analysis	3
Integrated Maritime Logistics	3
Maritime Trade Law	3
Maritime and Port Administration	3
Leadership and Managerial Skills	3
Intercultural Negotiation	3

2nd Term

Course	ECTS
Project Work in Maritime Logistics or Professional Internship with Report	30

Introduction to Maritime Logistics

Syllabus

- The role and importance of maritime transport and logistics in world trade
- The geography of maritime transport (ports and routes)
- Types of maritime transport
 - By types of cargo, distance and service, and
 - Ship technological and operational characteristics
- Ports and terminals characteristics (technical, operational and regulatory)
 - Introduction to port operations
- Inland logistics chains
 - Port interfacing
 - Inland transport modes
 - Dry ports and logistics centers
- Introduction to the maritime transportation business
 - Characteristics of liner and tramp services
 - Ship revenues and costs
 - Economic cycle of shipping
 - Fleet management
 - Industry consolidation (alliances, M&A)
- Port business
 - Hinterland and foreland
 - Port ownership and port terminals concessions
 - Shipping - port terminal relationship, agreements and verticalization
 - The container shipping particular case
- Introduction to offshore systems and operations
- Integrated view of the maritime logistics chain
 - Sustainability
 - Global awareness of maritime logistics

Intended learning outcomes

Understand maritime logistics and identify its business, operational, technological and regulatory components.

Have an integrated view of the maritime logistics chain, its sustainability and relationships with its environment, in a sea literacy perspective.

Identify and structure maritime logistics problems and be proactive in the search for solutions.

Organize information and communicate orally and in writing.

Work individually and in teams, defining priorities and managing the time to meet deadlines.

Be motivated to increase the acquired knowledge and skills.

Teaching methodologies (including students' assessment)

Module format, 10 consecutive working days (8 days x 5h30 + 2 days x 6 h). Exposition of theoretical content, study and presentation in class of specific literature and cases, case solving (problem structuring and solving of simple cases).

Course evaluation: two individual case solving assignments plus one project.

Location

NOVA SST Campus



Operations Management

Syllabus

- Operations design
- Operations management and control
 - Sequence of operations
 - Rules and prioritization
- Decision making tools
 - Linear programming
 - Decision trees
 - Queuing models
 - Network models
 - Simulation
- Lean and 6Sigma
- Sustainability
- Standards
 - Quality
 - operational & technical risks
 - functional safety (IEC 615XX)
 - HSE (Health, Safety & Environment) management
- Physical Assets Management

Intended learning outcomes

Understand the importance of Operations Management for organizations.

Define, analyze, measure, improve and control industrial and services operations.

Design of decision trees.

Develop linear programming models.

Describe a queuing system.

Apply queue analysis models.

Know and be able to use simulation tools.

Explain Six sigma

Apply Lean management tools to identify operations "waste".

Identify the objectives of Sustainability.

Categorize the principles of Circular Economy.

Identify the ISO standards applicable to the context of maritime operations.

Develop oral and written communication skills.

Develop problem solving skills .

Develop individual and group working habits together with time management skills.

Organize group work.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). The teaching method consists of multiple methodologies such as: exposition of theoretical contents, exercise solving, discussion of case studies, and development of a synthesis project. Laboratory project to apply the acquired knowledge.

Course evaluation: one project, plus two written tests.

Location

NOVA SST Campus



Maritime Business Technology

Syllabus

- Port and terminal technologies and impact on operations
- Communication technologies
- Detection/identification technologies
 - RFID and tracking systems
 - X-Ray scanning, etc
- Automation
- Autonomous vehicles (ships, land and air)
- Information systems
- Platforms and marketplaces of maritime logistics services
- Digital transformation: blockchain, AI, big data
- Cyber Security
- ICT Literacy

Intended learning outcomes

Understand the technological multiplicity of the maritime logistics.

Identify the different technologies and their functional relationships with the logistic operations.

Identify the opportunities brought by the new technological tendencies as well as the risks of ignoring them.

Structure and functionally specify the technologies required to the operations in the different domains of the maritime logistics chain.

Interact and negotiate with the technologies' specialists.

Be motivated to increase the acquired knowledge and skills.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). Theoretical-practical classes (TP) are directed so that students, through their active participation, understand each of the topics listed in the intended learning outcomes.

Course Evaluation: one written test, plus one monography.

Location

NOVA SST Campus



Maritime Business Analysis

Syllabus

- Ship and fleet business
 - Cycles
 - Tariffs (liner and tramp) and
 - Investment/divestment
 - Journey business analysis (revenues, costs, economic speed, slow steaming)
- Port and terminal business
 - Investment, costs and tariffs
 - Coping with sea demand
 - Ship requirements and
 - Land modes
- Inland supply chains business
 - Land modes
 - Multimodal and
 - Intermodal
- Investment analysis & project evaluation
 - Time-value of money
 - Investment analysis criteria
 - Replacement projects evaluation
- Business Risk
 - Decision criteria under risk
 - Decision trees

Intended learning outcomes

Understand the nature of the diverse types of businesses within the maritime logistics chain, and of its revenue and cost components.

Evaluate revenues, costs and proceedings of the maritime logistics activities.

Identify investment/divestment needs and analyze and assess investment projects.

Apply risk analysis tools to the business and to investment projects.

Structure and communicate information for business assessment in general and investment projects in particular.

Work individually and in team, defining priorities and managing the time to meet deadlines;

Be motivated to increase the acquired knowledge and skills.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). Exposition of theoretical content and tutored resolution of problems and cases. Study and solving of costing and evaluation of maritime and land operations e investment projects.

Course evaluation: one individual assignment, one team assignment, plus one written test.

Location

NOVA SST Campus



Integrated Maritime Logistics

Syllabus

- Supply chain and value creation
- Integrated Logistics, a systems approach
- Risk and uncertainty associated with maritime logistics
- Sustainability
- Systems life cycle management
- Integrated Logistic Support in the context of maritime-port operations
- Future trends

Intended learning outcomes

Have an integrated view of the maritime-port logistics operation supply chain.

Understand the value creation process.

Have a holistic and integrated view of the maritime-port logistical activity, as a complex system.

Understand concepts such as risk, uncertainty and sustainability and their relevance to the architecture of the logistics system.

Know the main phases of the systems life cycle, from conception, evaluation, construction, operation and elimination.

Know the functional elements of the Integrated Logistic Support applied to the context of maritime-port operations.

Have a perspective of what will be the main challenges and trends for logistical activity associated with maritime-port operations.

Develop soft skills to carry out a critical analysis of the real problems faced on the maritime-port logistics operation face and to present possible solutions.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). A participatory methodology covering the theoretical framework and the practical application is applied. The sessions are of a theoretical-practical nature. They include the exposition of concepts and methodologies and the presentation of real or simulated examples of application. These examples are discussed and interpreted in the classroom context. It is also proposed to students the resolution of a set of problems, autonomously, in an extra-classroom context.

Evaluation: one written test, plus and/or one or more practical assignments.

Location

Naval Academy facilities



Maritime Trade Law

Syllabus

- Know the Concepts and sources of Maritime Law
 - Describe the concepts of maritime law and indicate the sources of maritime law
 - Recognize the maritime organizations
 - Concept of Flag State and Coastal State
- Describe the International Trade and shipping documents: Charterparties
 - Bills of Lading
 - Law of general average
- Explain Cargo Claims and Bills of Lading
 - Cargo Claims – the general picture
 - Identity of the carrier
 - Hague-Visby Rules
 - Limiting the carrier liability
- Explain INCOTERMS:
 - How to use INCOTERMS
 - INCOTERMS characteristics
 - Explain the terms used in INCOTERMS
- Brokering and Chartering Practice
 - Basic legal Knowledge on charterparties
 - Voyage Charter
 - Time Charter

Intended learning outcomes

Know the Concepts and sources of Maritime Law.

Describe the International Trade and shipping documents.

Explain Cargo Claims and Bills of Lading.

Explain INCOTERMS.

Brokering and Chartering Practice.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). A participatory methodology covering the theoretical framework and the practical application is applied. The sessions are of a theoretical-practical nature, it includes the exposition of concepts and methodologies and the presentation of real or simulated examples of application. These examples are discussed and interpreted in the classroom context. It is also proposed to students the resolution of a set of problems, autonomously, in an extra-classroom context.

Evaluation: one practical test, plus one or more assignments.

Location

Naval Academy facilities



Maritime and Port Administration

Syllabus

- Characterize the Maritime Administration and its functions as a global entity:
 - Introduction to the shipping industry
 - UNCLOS - United Nations Convention on the Law of the Sea
 - International Maritime Organization and the maritime conventions
- Identify the components of the port maritime system in the context of logistics applications:
 - Types of merchant ships
 - Logistics of different types of cargo
 - Seaports as logistics centers
- Recognize the functionalities of a sea port, its authorities and services;
 - Definition of sea port
 - Types of ports
 - Port authorities
 - Port services
- Understand the role of a port as a logistics center:
 - The logistics functions of ports
 - Multi-modal transport
 - Logistics activities areas
- Distinguish the different types of port terminals.
 - Sea and land accessibility and environmental conditions
 - Equipment and infrastructure.
 - Different types of terminals.

Intended learning outcomes

Characterize the Maritime Administration and its functions as a global entity.

Identify the components of the shipping industry in the context of logistics applications.

Recognize the functionalities of a sea port, its authorities and services.

Understand the role of a port as a logistics centre.

Distinguish the different types of port terminals and conditions.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). A participatory methodology covering the theoretical framework and the practical application is applied. The sessions are of a theoretical-practical nature. They include the exposition of concepts and methodologies and the presentation of real or simulated examples of application. These examples are discussed and interpreted in the classroom context. It is also proposed to students the resolution of a set of problems, autonomously, in an extra-classroom context.

Evaluation: one practical test, plus one or more assignments.

Location

Naval Academy facilities



Leadership and Managerial Skills

Syllabus

- Organizations: their nature and complexity
- Organizational behaviour
- Groups and teams in organizations
- Leadership and team management
- Development of functional team leadership skills, in a simulation context
- Global awareness and civic literacy

Intended learning outcomes

Have an integrated understanding of organizations as political entities.

Understand the main principles of organizational behaviour and leadership.

Master team leadership skills.

Develop collaboration and communication skills.

Understand creative and innovation frameworks

Develop Global awareness and civic literacy skills.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). Presentations, readings, case studies.

Evaluation: One case study discussion and report, plus one written test.

Location

Naval Academy facilities



Intercultural Negotiation

Syllabus

- Negotiation and Conflict resolution
- Simple and complex negotiations
- Negotiations between two parties and involving multiple parties
- Negotiation Tactics. Power and influence
- Negotiating across cultures:
 - Europe
 - Americas
 - Africa
 - Asia
 - Oceania
- Decision making

Intended learning outcomes

Have a systematic view of negotiation and conflict resolution approaches.

Understanding the difference between simple and complex negotiations.

Understand Negotiations between two parties and involving multiple parties.

Understand the role of power and influence in negotiation, as well as usable tactics.

Understand how different cultures negotiate.

Understand the main fallacies and mind bias in decision making as an individual or as part of a group.

Teaching methodologies (including students' assessment)

Module format, 5 consecutive working days (4 days x 5h30 + 1 day x 6 h). Presentations, readings, case studies.

Evaluation: One case study discussion and report, plus one written test.

Location

Naval Academy facilities



Project Work in Maritime Logistics

Syllabus

This course is entirely dedicated to the preparation, execution and reporting of a work project in maritime logistics, applying the knowledge acquired in the previous term in an innovative way to a real life situation in this domain.

Intended learning outcomes

Develop a work project applying the knowledge in Maritime Logistics to a real life case, preferably related to the professional activities of the student, who will learn how to run a real life maritime logistics project and to present the obtained results.

Teaching methodologies (including students' assessment)

Preparation and execution of a project, with the support of the university and the industry's entity supervisors of the student.

Location

Company/Organization/Research Center



Professional Internship with Report

Syllabus

This course consists of a professional traineeship at an organization of the maritime logistics industry, where the knowledge acquired in the previous term will be applied in an innovative way.

Intended learning outcomes

Develop professional work in a real-life environment to deepen skills in maritime logistics, learn to structure targets, perform a professional activity to achieve them and present the obtained results.

Teaching methodologies (including students' assessment)

Targets definition, professional work to accomplish them (with periodic records) and the writing of the final report, with the support of the supervisors of the student from the university and the industry's organization.

Location

Company/Organization

