

## Course guide

# 280704 - 280704 - Management of Integrated Systems. Safety, Environment and Quality

Last modified: 27/05/2024

<b>Unit in charge:</b>	Barcelona School of Nautical Studies
<b>Teaching unit:</b>	742 - CEN - Department of Nautical Sciences and Engineering.
<b>Degree:</b>	MASTER'S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT MANAGEMENT (Syllabus 2016). (Compulsory subject). MASTER'S DEGREE IN THE MANAGEMENT AND OPERATION OF MARINE ENERGY FACILITIES (Syllabus 2016). (Compulsory subject).

**Academic year:** 2024    **ECTS Credits:** 5.0    **Languages:** Spanish

## LECTURER

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<b>Coordinating lecturer:</b>	SANTIAGO ORDAS JIMENEZ
<b>Others:</b>	Primer quadrimestre: SANTIAGO ORDAS JIMENEZ - MGOIE, MNGTM

## DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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### Specific:

CE1-MNGTM. Coneixements adequats per iniciar l'activitat investigadora. Metodologia de la investigació aplicada a l'àmbit de l'especialitat

CE6-MNGTM. Coneixement i capacitat per a la realització d'auditories i estudis de Gestió de Qualitat.

CE7-MNGTM. Conocimiento y capacidad para la realización de auditorías y estudios de Seguridad Marina.

CE8-MNGTM. Coneixement i capacitat per a la realització d'auditories i estudis d'impacte ambiental.

### Generical:

CG10-MNGTM. (ENG) Capacidad de analizar, valorar y corregir el impacto social y ambiental de las soluciones técnicas en el ámbito de la especialidad

CG11-MNGTM. Capacitat per a realitzar auditories energètiques i mediambientals

### Transversal:

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

#### Basic:

CB6. Possess knowledge and understanding that provide a basis or opportunity be original in the development and / or application of ideas, often in a research context.

CB7. That the students can apply their knowledge and ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their study area.

CB9. That students can communicate their conclusions and the knowledge and Latest rationale underpinning to specialists and non Specialty clearly and unambiguously.

CB10. Students must possess the learning skills that enable them continue studying in a way that will be largely self-directed or autonomous.

## TEACHING METHODOLOGY

Master Classes

Autonomous work of theoretical content

Autonomous learning by solving exercises and problems

## LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course the student can demonstrate that :

Knows Environmental Standards . ISO 14000/14001 , EMAS Regulation . Has extensive knowledge of them and Modes Application and Implementation

Knows Quality Standards . ISO 9001. Has extensive knowledge of them and Modes Application and Implementation

Knows safety regulations

Knows The Standard OHSAS 18.001 on the management of Occupational Safety and Health.

Knows aspects of Corporate Social Responsibility

The student is capable of carrying an Audit Process

As a result of learning, the student has a training that covers all aspects related to maritime and safety risks, from the perspective of engineering and operations, as well as safety and health regulations and requirements.

The student knows the national and international regulations of management, quality and environment. The student is able to perform audits in these fields.

This course will evaluate the following STCW competences, according the Table A-II/2 & A-III/2

18. Develop emergency and damage control plans and handle emergency situation (A-II/2)

Ensure safe working practices (A-III/2)

## STUDY LOAD

Type	Hours	Percentage
Hours large group	45,0	36.00
Self study	80,0	64.00

**Total learning time:** 125 h

## CONTENTS

### ISO 9001. Management Quality Systems

**Description:**

Evolution Systems Quality Management and its Principles.  
Requirements of a quality management system and the leadership and commitment of senior management.  
Planning for the quality management system.  
Resource Management-Support.  
Requirements for Product Realization-operation.  
Performance Evaluation and Improvement Processes.

**Full-or-part-time:** 2h

Theory classes: 2h

### ISO 14001 & EMAS Regulation: Environmental Management Systems

**Description:**

Environmental Management and ISO 14001.  
Planning Environmental Management System ISO 14001.  
Implementation of Environmental Management System ISO 14001.  
Review of Environmental Management System ISO 14001.  
Special features of the Environmental Management System according EMAS Regulation.  
Analysis and Environmental Statement.

**Full-or-part-time:** 2h

Theory classes: 2h

### Advanced Tools for Sustainable Environmental Management

**Description:**

Fundamentals of Ecodesign and Life Cycle of Products.  
Environmental Management Process Design and Development.  
What are the eco-labels.  
Sustainable Management and Certification.  
Ambientales.Análisis indicators and Environmental Risk Assessment.

**Full-or-part-time:** 2h

Theory classes: 2h

### corporate social responsibility

**Description:**

Requirements and Implementation ISO 26000 and ISO CAP Evolution.  
Sustainability Reports. The Global Reporting Initiative (GRI).  
Requirements of AA1000.  
SA8000 requirements.  
Trends and Integration of Social Responsibility.  
Audits and Certification of Social Responsibility.

**Full-or-part-time:** 2h

Theory classes: 2h

### Health & Safety at work

**Description:**

Fundamentals of Occupational Safety.  
Aspects of Occupational Health Program and the General System of Occupational Hazards.  
Application of Industrial Safety at Companies.  
Importance of Industrial Hygiene at Companies.  
Ergonomics.  
Psicosociological characteristics associated with Labour.

**Full-or-part-time:** 2h

Theory classes: 2h

### OHSAS 18001: Safety and Health Management System

**Description:**

Challenge of Safety and Health at Work.  
Documental Structure of Safety & Health Management Systems.  
General and Policy Requirements OHSMS.  
Planning Management System OHSAS.  
Implementation and operation of OHSMS.  
Testing and Management System Review OHSMS by management.

**Full-or-part-time:** 2h

Theory classes: 2h

### Safety Management System (ISM Code)

**Description:**

Background and the vision of the ISM Code  
Introduction to the 16 elements of the ISM Code  
Functional requirements for a SMS  
System of internal and external verification  
Interpretations and requirements of major flag States

**Specific objectives:**

This knowledge is necessary in accordance with STCW Code A-II/2 and A-III/2 and it's developed according to MASTER AND CHIEF MATE (Model course 7.01) (2014 Edition) and CHIEF ENGINEER OFFICER AND SECOND ENGINEER OFFICER (Model course 7.02) (2014 Edition)

- 18.1 Preparation of contingency plans for response to emergencies
- 18.2 Ship construction, including damage control
- 18.3 Methods and aids for fire prevention, detection and extinction
- 18.4 Functions and use of life-saving appliances

Ensure safe working practices

**Full-or-part-time:** 2h

Theory classes: 2h

### Integration of Management Systems Audit and Certification

#### Description:

International Standardization and Industrial Safety.

Main aspects of IMS Audits.

Auditor IMS profile.

Audit Process.

Audit Report Preparation of a IMS.

Integration of Management Systems.

**Full-or-part-time:** 2h

Theory classes: 2h

## GRADING SYSTEM

The final score is the sum of the following partial grades:

$$N_{pf} N_{final} = 0.5 N_{pf} + 0.3 N_{act} + 0.2 N_{aca}$$

N<sub>final</sub>: final grade.

N<sub>pf</sub>: final test score.

N<sub>act</sub>: continuous assessment work.

N<sub>aca</sub>: continuous assessment activities rating.

The final test consists of a part with issues related to the learning objectives of the course in terms of knowledge or understanding concepts, and a set of application exercises. Continuous assessment consists of different activities, both individual and group, summative and formative, made ??during the course (in the classroom and outside of it).

The reassessment of the course will consist of a final exam that will include all the contents of the subject.

## EXAMINATION RULES.

If not any of the ongoing evaluation activities performed, shall be deemed not scored.

Be deemed not submitted the student / a not present at the final test or have not submitted at least 50% of the work and activities.

## BIBLIOGRAPHY

#### Basic:

- Gómez Martínez, José Antonio. Guía para la aplicación de UNE-EN ISO 9001:2015 [on line]. Madrid: AENOR, 2019 [Consultation: 29/07/2024]. Available on:

<https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=29408344>. ISBN 9788481439129.

- Valdés Fernández, José Luis [et al.]. Guía para la aplicación de UNE-EN ISO 14001:2015 [on line]. Madrid: AENOR, 2019 [Consultation: 29/07/2024]. Available on:

<https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?pq-origsite=primo&docID=29383393>. ISBN 9788481439151.

- Sánchez-Toledo Ledesma, Agustín; Fernández Muñiz, Beatriz. Cómo implantar con éxito OHSAS 18001. Madrid: AENOR, 2011. ISBN 9788481437348.

- Navarro García, Fernando. Responsabilidad social corporativa : teoría y práctica. 2a ed. act., rev. y ampliada. Madrid: ESIC, 2012. ISBN 9788473568241.