# 280703 - Management of Maritime Safety and Pollution Prevention

**Coordinating unit:** 280 - FNB - Barcelona School of Nautical Studies  
**Teaching unit:** 742 - CEN - Department of Nautical Sciences and Engineering  
**Academic year:** 2019  
**Degree:**  
- MASTER'S DEGREE IN NAUTICAL SCIENCE AND MARITIME TRANSPORT MANAGEMENT (Syllabus 2016). (Teaching unit Compulsory)  
- MASTER'S DEGREE IN THE MANAGEMENT AND OPERATION OF MARINE ENERGY FACILITIES (Syllabus 2016). (Teaching unit Compulsory)  
- MASTER'S DEGREE IN NAVAL AND OCEAN ENGINEERING (Syllabus 2017). (Teaching unit Optional)  
**ECTS credits:** 5  
**Teaching languages:** Spanish, English

## Teaching staff

**Coordinator:** JAIME RODRIGO DE LARRUCEA

## Opening hours

**Timetable:** Thursday 17-20 hs.

## Prior skills

Basic knowledgement of maritime safety and pollution

## Requirements

Not Compulsory

## Degree competences to which the subject contributes

**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.  
- CB8. Students should be able to integrate knowledge and handle the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the responsibilities social and ethical linked to the application of their knowledge and judgments.
Students should be able to integrate knowledge and handle the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the responsibilities social and ethical linked to the application of their knowledge and judgments. 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.

Specific:
CE1-MGOIEM. Coneixements adequats per iniciar l'activitat investigadora. Metodologia de la investigació aplicada a l'àmbit de l'especialitat
CE20MGOIEM. Coneixements de convenis internacionals i nacionals Marítims
CE24MGOIEM. Coneixement del dret marítim nacional i internacional

General:
CG2-MGOIEM. (ENG) Capacidad para resolver problemas complejos y tomar decisiones con responsabilidad sobre bases científicas y tecnológicas en el ámbito de su especialidad
CG11MGOIEM. Capacitat per realitzar tasques d'investigació, desenvolupament i innovació en l'àmbit de la seva especialitat

Transversal:
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.

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.
CT1. ENTREPRENEURSHIP AND INNOVATION: Knowing and understanding the organization of a company and the sciences that govern the activity; be able to understand the business rules and relationships between planning, industrial and commercial strategies, quality and profit.

Know and understand the mechanisms that scientific research is based, as well as the mechanisms and instruments of transfer of results between different socio-economic actors involved in the processes of R + D + I.

Teaching methodology
MD-1- Expositive Method and magistral class
MD-2- Expositive lessons and exercises
MD-3- Authornom learning and practical exercises

Learning objectives of the subject
The student will acquire training that will cover all aspects of maritime risks, management of safety and prevention management and pollution control, from the perspective of engineering and operational, and the regulations and requirements for safety and health. It addresses the needs of both professionals and students working in related management of shipping, ship design, naval architecture and transport management fields and fields including security management, insurance and accident investigation.

On the other hand, one of the objectives of this course is to provide knowledge, understanding and proficiency of skills "COORDINATION OF OPERATIONS SAR", "RESPOND TO NAVIGATIONAL EMERGENCIES". "MONITORING AND ENFORCEMENT OF LEGAL REQUIREMENTS AND MEASURES TO ENSURE THE LIFE AT SEA, MARITIME SECURITY AND
POLLUTION PREVENTION "*," KEEP THE TERMS OF SAFETY AND PROTECTION OF PASSENGERS AND CREW AND OPERATING CONDITIONS OF RESCUE SYSTEMS, FIRE FIGHTING AND OTHER SECURITY SYSTEMS "*," EMERGENCY MANAGEMENT AND DAMAGES CONTROL including ("Technology of materials Naval architecture and ship construction, including damage control") competencies required and defined in Section a-II / 2 and a-III / 2 of the International Convention on Standards of Training, Certification and Watchkeeping for seafarers STCW 78/95/2010.

This course will evaluate the following STCW competences:

Plan and schedule operations
Ensure safe working practices
Monitor and control Compliance with legislative requirements and measures to ensure safety of life at sea, security and protection of the marine environment
Maintain safety and security of the vessel, crew and passengers and the operational condition of life?saving, fire?fighting and other safety systems
Develop emergency and damage control plans and handle emergency situations
Control trim, stability and stress.

More detailed:

Ch. 4.-Coordinate search and rescue operations: 4.1 A thorough knowledge research and and ability to apply the rescue procedures contained in operations the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.

Ch. 9.-Respond to navigational emergencies
9.1 Precautions when beaching a ship
9.2 Action to be taken if grounding is imminent, and after grounding
9.3 Refloating a grounded ship with and without assistance
9.4 Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause
9.5 Assessment of damage control
9.6 Emergency steering
9.7 Emergency towing arrangements and towing procedure

Ch. 17.-Maintain safety and security the ship’s crew and passengers and the operational condition of lifesaving, firefighting and other safety systems
17.1 Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)
17.2 Organization of fire drills and abandon ship drills
17.3 Maintenance of operational condition of life-saving, fire-fighting and other safety systems
17.4 Actions to be taken to protect and safeguard all persons on board in emergencies
17.5 Actions to limit damage and salve the ship following afire, explosion, collision or grounding
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### Study load

| Total learning time: 45h | Hours large group: | 45h | 100.00% |
# Content

## Them 1- LABORAL RISKS PREVENTION ON MARITIME SECTOR

**Description:**
Knowledge and labour risks management

**Learning time:** 34h 30m
- Theory classes: 12h 30m
- Self study: 22h

## Them 2. SEARCH AND RESCUE

**Description:**
Maritime Techniques of Search and Rescue. The SAR Convention. SASEMAR

**Learning time:** 22h
- Theory classes: 8h
- Self study: 14h

## Them 3. ORGANIZATION AND MANAGEMENT OF MARITIME SAFETY AND PROTECTION AND POLLUTION PREVENTION

**Description:**
Organization from risks: operational, environmental and protection. Analysis, evaluation and risk management.

**Learning time:** 22h
- Theory classes: 8h
- Self study: 14h

## Them 4. THE SHIP AS A SOURCE OF POLLUTION

**Description:**
- Historical Background
- National and international regulations on pollution
- Pollution by sewage from ships
- Pollution by Garbage from Ships
- Pollution from ship operations
- By oil pollution
- Air Pollution

**Learning time:** 22h
- Theory classes: 8h
- Self study: 14h
### Them 5. CONTINGENCY PLANNING FOR POLLUTION

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>24h 30m</th>
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</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>8h 30m</td>
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<tr>
<td>Self study:</td>
<td>16h</td>
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#### Description:
- Behavior of a oil spill at sea
- Elimination and dispersion of pollutants
- Contingency Planning for Marine Pollution

#### Qualification system

- Final mark: $0.5 \times FE + 0.25 \times Nt1 + 0.25 \times Nt2$
- Final exam: 50%
- $Nt1$: work's mark 1
- $Nt2$: work's mark 2

#### Regulations for carrying out activities

- Not be able to pass the course if the student have submitted all the works and activities of continuous assessment and submitted to the final test.
- He deemed NOT PRESENTED to the student who fails to appear at the evaluable tests.
- In no event shall dispose of any kind of forms or documents in controls or tests.

#### Bibliography

**Basic:**