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 knowledge of maritime safety and pollution

Requirements
Not Compulsory

Degree competences to which the subject contributes

Specific:
CE2MENT. Coordinate, theoretically, the search and rescue persons and vessels in distress.
CE5MENT. Carry out a watch on the bridge (in navigation, anchor and in port.
CE15MEM. Interpret all the ship's papers.
CE21MEM. Apply knowledge of commerce and shipping International for application to the definition and optimization of new ships and artifacts.

General:
CG8.GEM. IDENTIFY I resoldre Capacitat PER L'Ambit problemes IN MARINA DE L'ENGINYERIA. Capacitat per the plantejament i resolució de problemes de l'èmbit enginyeria assumint marina iniciatives, prenent decisions i aplicant solucions creatives in the marc d'a systematic methodology.
CG1MENTM. (ENG) Identify marine facilities. Influencing design activities, redesign, planning, management and operation thereof.
CG3MENTM. Manage and exercise control the direction of the ship.
CG8MENTM. Direct, plan and supervise multidisciplinary teams.
CG4MEM. Implement alternative and innovative solutions to engineering problems marina.

Transversal:
CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim
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 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 salvage the ship following a fire, explosion, collision or grounding

**Study load**

<table>
<thead>
<tr>
<th>Total learning time: 45h</th>
<th>Hours large group:</th>
<th>45h</th>
<th>100.00%</th>
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## Content

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
<th>Learning Time</th>
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<tbody>
<tr>
<td>1. LABORAL RISKS PREVENTION ON MARITIME SECTOR</td>
<td>Knowledge and labour risks management</td>
<td>34h 30m</td>
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<td></td>
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<td>Theory classes: 12h 30m</td>
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<td>Self study: 22h</td>
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<tr>
<td>2. SEARCH AND RESCUE</td>
<td>Maritime Techniques of Search and Rescue. The SAR Convention. SASEMAR</td>
<td>22h</td>
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<td>Theory classes: 8h</td>
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<td>Self study: 14h</td>
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<tr>
<td>3. ORGANIZATION AND MANAGEMENT OF MARITIME SAFETY AND PROTECTION AND POLLUTION PREVENTION</td>
<td>Organization from risks: operational, environmental and protection. Analysis, evaluation and risk management.</td>
<td>22h</td>
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<tr>
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<td>Theory classes: 8h</td>
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<td>Self study: 14h</td>
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<tr>
<td>4. THE SHIP AS A SOURCE OF POLLUTION</td>
<td>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</td>
<td>22h</td>
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<tr>
<td></td>
<td></td>
<td>Theory classes: 8h</td>
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<td>Self study: 14h</td>
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**Them 5. CONTINGENCY PLANNING FOR POLLUTION**

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

**Qualification system**

Final mark: \(0.5 \times FE + 0.25 \times Nt1 + 0.25 \times Nt2\)

- \(Nt1\): work's mark 1
- \(Nt2\): work's mark 2

Final exam: 50%

**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:**