Course guide
280658 - 280658 - Installations and Maintenance

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering.
Degree: BACHELOR’S DEGREE IN MARINE TECHNOLOGIES (Syllabus 2010). (Compulsory subject).
BACHELOR’S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Compulsory subject).
Academic year: 2022  ECTS Credits: 4.5  Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: RAMON GRAU MUR

Others: Primer quadrimestre: RAMON GRAU MUR - DT, GESTN, GTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
GTM.CE29. Knowledge and capacity to the operation, maintenance, redesign and repair of all existing systems on board a ship and ability to identify and address the different types of faults.

TEACHING METHODOLOGY

Receive, understand and synthethic knowledge.
Develop the reasoning and critical spirit and defend it in an oral and written way.

LEARNING OBJECTIVES OF THE SUBJECT

Know the fundamentals of maintaining marine systems.
Know the principles of redesign and repair of existing systems on board.
Know and identify the types of failures that can occur in marine systems.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group</td>
<td>7,0</td>
<td>6.22</td>
</tr>
<tr>
<td>Guided activities</td>
<td>6,0</td>
<td>5.33</td>
</tr>
<tr>
<td>Hours small group</td>
<td>6,0</td>
<td>5.33</td>
</tr>
<tr>
<td>Self study</td>
<td>67,5</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>26,0</td>
<td>23.11</td>
</tr>
</tbody>
</table>

Total learning time: 112.5 h
## CONTENTS

1. **Introduction to Maintenance**

   **Description:**
   Introduction of the foundations and conditions of maintenance. Types and models of maintenance. Relationship between the activity developed and the type of maintenance. Own actions.

   **Full-or-part-time:** 6h  
   Theory classes: 6h

2. **Failures**

   **Description:**
   Introduction to the study of failures and resolution procedures. Classification and typing of failures. Activities to eliminate faults.

   **Specific objectives:**
   STCW KUPs 4.1 4.2 4.3 5.1 5.2

   **Full-or-part-time:** 3h  
   Theory classes: 3h

3. **Reliability, maintainability and availability**

   **Description:**
   Study and calculation of the reliability, maintainability and availability of a system and its effects on maintenance.

   **Specific objectives:**
   STCW KUPs 4.3

   **Full-or-part-time:** 9h  
   Theory classes: 9h

4. **Maintenance documentation**

   **Description:**
   Introduction to the need for documentation in maintenance. Its use and classification.

   **Specific objectives:**
   STCW KUPs 7.6 9.6 9-7

   **Full-or-part-time:** 3h  
   Theory classes: 3h

5. **Organization and management of maintenance magatzem**

   **Description:**
   Need, typology and control of the maintenance warehouse.

   **Specific objectives:**
   STCW KUPs 9.5

   **Full-or-part-time:** 3h  
   Theory classes: 3h
6. Failure inspection and diagnosis techniques

**Description:**
Recognition and inspection techniques plus employees in maintenance

**Specific objectives:**
STCW KUPs 4.2 4.3 5.1 5.2 5.3 7.3

**Full-or-part-time:** 9h
Theory classes: 9h

7. Ship repairs

**Description:**
Typology of the repairs carried out on board, development and control

**Specific objectives:**
STCW KUPs 7.1 7.2 7.3 7.4 7.5 7.6 9.1 9.2 9.3 9.4

**Full-or-part-time:** 6h
Theory classes: 6h

**GRADING SYSTEM**

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

\[ N_{\text{final}} = 0.2 \times N_{1p} + 0.2 \times N_{2p} + 0.6 \times N_{pf} \]

- \( N_{\text{final}} \): final grade of the subject
- \( N_{1p} \): qualification of the first evaluation
- \( N_{2p} \): qualification of the second evaluation
- \( N_{pf} \): qualification of the final evaluation

A final reassessment test will be performed for students who meet the requirements established by the center’s regulations, which will consist of a single test in which all the matter of the cure will be evaluated.

**EXAMINATION RULES.**

If one of the assessment activities is not carried out, it will be considered not rated.
It will be considered Not Presented when a minimum of 80% of the assessment activities is not carried out.

**BIBLIOGRAPHY**

**Basic:**