Course guide

280646 - 280646 - Naval Construction

Unit in charge: Barcelona School of Nautical Studies
Teaching unit: 742 - CEN - Department of Nautical Sciences and Engineering.
Degre: 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: 2023  ECTS Credits: 6.0  Languages: Spanish

LECTURER

Coordinating lecturer: FRANCISCO JAVIER DE BALLE DE DOU
Others: Segon quadriemstre:
FRANCISCO JAVIER DE BALLE DE DOU - DT, GESTN, GTM
ALEJANDRO LEON ARIAS - DT, GESTN, GTM

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
GTM.CE16. Knowledge of major systems and auxiliary engines of the vessel and cooling facilities and air conditioning.
GTM.CE15. Knowledge, use and application to ship the principles of shipbuilding.
GESTN.CE16. Ability to perform the calculation and control of vibration and noise on board ships and artifacts.
GESTN.CE15. Knowledge of the characteristics of naval propulsion systems.

Generical:
GTM.CG8. IDENTIFY I resoldre Capacitat PER L’Ambit problemes IN MARINA DE L’ENGINYERIA.
Capacitat per al plantejament i resolució de problemes de l’ambit enginyeria assumint marina iniciatives, prenent decisions i aplicant solucions creatives en el marc d’a’systematic methodology.

STCW:
ME.1. A-III/1-4. Function: Controlling the operation of the ship and care for persons on board at the operational level
ME.2. A-III/1-4.2 Maintain seaworthiness of the ship
ME.3. A-III/1-KUP 4.2.2 Ship construction: General knowledge of the principal structural members of a ship and the proper names for the various parts

TEACHING METHODOLOGY

- Receive, understand and synthesize knowledge.
- Pose and solve problems.
- Develop reasoning and critical thinking and defend it orally and in writing.
- Carry out group and individual work.

LEARNING OBJECTIVES OF THE SUBJECT

The student who has finished the course will be able to demonstrate that:
- Know, use and apply the principles of shipbuilding.
- Recognizes the ethical, social and environmental implications of the professional activity of marine engineering.
- Identify, model and pose problems from open situations.
- Explore and apply the alternatives for its resolution. Manage approaches, commitments and priorities.
STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>40.0</td>
<td>26.67</td>
</tr>
<tr>
<td>Guided activities</td>
<td>5.0</td>
<td>3.33</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>15.0</td>
<td>10.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90.0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

1. General Description of the Vessel.

Description:

Full-or-part-time: 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study : 10h

2. The shipyard

Description:

Full-or-part-time: 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study : 10h

3. Pre-assembly and Assembly

Description:
Previous, Sub Blocks and Blocks. Constructive Solutions. The Right Sequence. On-board mounting.

Full-or-part-time: 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study : 10h
4. Interaction of the Agents Intervening in the Project

**Description:**

**Full-or-part-time:** 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study: 10h

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5. The Classification Societies

**Description:**
Genesis. Functions. The IACS. Types of Acknowledgments.

**Full-or-part-time:** 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study: 10h

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6. Types of Ships

**Description:**
Merchants. of war. Fishing boats. Recreation.

**Full-or-part-time:** 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study: 10h

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7. The Ship as Beam

**Description:**
Basic Notions of Strength of Materials. Types of Efforts Supported by the Vessel. Most requested areas.

**Full-or-part-time:** 16h
Theory classes: 2h
Practical classes: 2h
Guided activities: 2h
Self study: 10h
8. Sailing Boats

Description:

**Full-or-part-time:** 16h
- Theory classes: 2h
- Practical classes: 2h
- Guided activities: 2h
- Self study: 10h

9. Welding in Shipbuilding

Description:

**Full-or-part-time:** 22h
- Theory classes: 2h
- Practical classes: 2h
- Guided activities: 2h
- Self study: 16h

**GRADING SYSTEM**

The final grade for the course will be calculated according to the following formula:

\[ N_{\text{final}} = 50\% \ N_{\text{pf}} + 50\% \ N_{\text{ac}} \]

- \( N_{\text{final}} \): final qualification
- \( N_{\text{pf}} \): final prova qualification
- \( N_{\text{ac}} \): continuous assessment, which includes: practices / problems, directed activities and the evaluation of guided and autonomous learning.

The final test (\( N_{\text{pf}} \)) consists of a written exam where all the concepts and elements covered in the subject will be evaluated, both at a practical and theoretical level.

The continuous assessment mark (\( N_{\text{ac}} \)) consists of the sum of individual and autonomous works, in addition to those carried out in groups. It is a necessary condition to pass the course to deliver all the practices, problems, directed activities, assignments and tasks.

\[ N_{\text{ac}} = 1/3\% \ N_{\text{pp}} + 1/3\% \ N_{\text{ad}} + 1/3\% \ N_{\text{aga}} \]

- \( N_{\text{ac}} \): Continuous evaluation note
- \( N_{\text{pp}} \): Note practices and problems
- \( N_{\text{ad}} \): Note directed activities
- \( N_{\text{aga}} \): Guided and Autonomous Learning Note

**EXAMINATION RULES.**

For the formula application:

\[ N_{\text{final}} = 50\% \ N_{\text{pf}} + 50\% \ N_{\text{ac}} \]

All work and continuous assessment tests delivered after the deadline or in due form will be considered "Not Submitted" and will not be graded.
BIBLIOGRAPHY

Basic: