

## Course guide

### 280666 - 280666 - Naval Equipment

Last modified: 09/05/2023

**Unit in charge:** Barcelona School of Nautical Studies  
**Teaching unit:** 742 - CEN - Department of Nautical Sciences and Engineering.

**Degree:** BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Compulsory subject).

**Academic year:** 2023    **ECTS Credits:** 3.0    **Languages:** Spanish

#### LECTURER

**Coordinating lecturer:** MANUEL RODRIGUEZ CASTILLO

**Others:** Segon quadrimestre:  
MANUEL RODRIGUEZ CASTILLO - DT, GESTN

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

**Specific:**  
1. Knowledge of naval equipment and auxiliary systems.

#### TEACHING METHODOLOGY

Receive, understand and synthesize knowledge.  
Documenting case studies  
Develop critical thinking and reasoning and defend I oral or written form.  
Perform work individually.  
Prepare technical reports

#### LEARNING OBJECTIVES OF THE SUBJECT

Learn the basics of marine systems.  
Know thoroughly the principles of operation, repair and redesign of existing systems aboard a ship.  
Plans and conducts an oral presentation, responds appropriately to questions asked and correctly drawn basic technical level texts.

#### STUDY LOAD

Type	Hours	Percentage
Hours small group	2,0	2.67
Hours large group	25,0	33.33
Hours medium group	2,0	2.67
Guided activities	1,0	1.33
Self study	45,0	60.00

**Total learning time:** 75 h



## CONTENTS

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### Overview of systems.

**Description:**

Overview and introduction to systems.

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

Theory classes: 6h

### Bilge Service

**Description:**

Concept, functions and operations.

**Full-or-part-time:** 4h

Theory classes: 4h

### Seawater service.

**Description:**

Concept, functions and operation of fire services, flushing, ballast and cooling.

**Full-or-part-time:** 4h

Theory classes: 4h

### Freshwater service

**Description:**

Concept, functions and operation of refrigeration and health service .

**Full-or-part-time:** 4h

Theory classes: 4h

### Air service.

**Description:**

Concept, functions and operations of the air vent and compress services.

**Full-or-part-time:** 4h

Theory classes: 4h

### Fuel service.

**Description:**

Concept, functions and operations of the fuel services.

**Full-or-part-time:** 4h

Theory classes: 4h

#### Lubrication service.

##### Description:

Concept, functions and operational of the lubrication services.

**Full-or-part-time:** 4h

Theory classes: 4h

## GRADING SYSTEM

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

$$N_{\text{final}} = 0.8 N_{\text{pf}} + 0.2 N_{\text{ac}}$$

$N_{\text{final}}$ : final grade.

$N_{\text{pf}}$ : final test score.

$N_{\text{ac}}$ : continuous assessment.

The final test consists of a part with issues related to the learning objectives of the course with respect to knowledge or understanding concepts, and a set of application exercises.

Continuous assessment consists of different activities, both individual and group formative in nature, occurring during the course.

A final test will be conducted reassessment students who meet the requirements established by the regulations of the center, which will consist of a single test in which all of the matter that will be assessed during the course.

## EXAMINATION RULES.

If any of the assessment activities is not done, shall be deemed not scored.

It is considered not submitted when not perform any tests.

## BIBLIOGRAPHY

### Basic:

- Bonilla de la Corte, Antonio. Construcción naval y servicios. Vigo: l'autor, 1984. ISBN 843982629X.
- Comas Turnes, Eduardo. Equipo y servicios. Madrid: Escuela Técnica Superior de Ingenieros Navales, UPM, 1980.
- McGeorge, H. David. Marine auxiliary machinery [on line]. 7th ed. Amsterdam: Butterworth-Heinemann, 1995 [Consultation: 01/09/2022]. Available on : <https://www.sciencedirect-com.recursos.biblioteca.upc.edu/book/9780750643986/marine-auxiliary-machinery>.
- "Técnicas de prevención, detección y lucha contra-incendios a bordo". Piniella Corbacho, Francisco. Fundamentos de seguridad marítima : técnicas de seguridad aplicadas al buque. Cádiz: Universidad de Cádiz. Servicio de Publicaciones, 1996. pàg. 189-306.
- Mazarredo Beutel, Luis de. Evolución de la propulsión naval mecánica. Madrid: Fondo Editorial de Ingeniería Naval : Colegio Oficial de Ingenieros Navales, 1992. ISBN 8460081869.

### Complementary:

- Hernández Molina, Ricardo. Maquinaria auxiliar. Cadiz: Escuela Superior de la Marina Civil, Universidad de Cádiz, 1991.
- Grau Castello, V. Máquinas marinas. Madrid: Escuela técnica superior de ingenieros navales, UPM, 1995.
- Hillier, H. [et al.]. Maquinaria marítima auxiliar. México: Unión Tipográfica Edit. Hispano Americana, 1965.
- The Motor ship. London: A.P.Chalkler, [1920]-.
- Marine propulsion & auxiliary machinery : the journal of ships' engineering systems. Einfield: Riviera Maritime Media, 2003-.
- Ingeniería naval : revista editada por la Asociación de Ingenieros Navales de España. Madrid: Asociación de Ingenieros Navales de España, [1929]-.