

Course guide

280658 - 280658 - Installations and Maintenance

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 MARINE TECHNOLOGIES (Syllabus 2010). (Compulsory subject).
BACHELOR'S DEGREE IN NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Compulsory subject).

Academic year: 2023 **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 systhetic 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

Type	Hours	Percentage
Hours small group	6,0	5.33
Hours large group	26,0	23.11
Hours medium group	7,0	6.22
Guided activities	6,0	5.33
Self study	67,5	60.00

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:

$$N_{\text{final}} = 0.2 N_{1p} + 0.2 N_{2p} + 0.6 N_{pf}$$

N_{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:

- Gómez de León, Félix Cesáreo. Tecnología del mantenimiento industrial. Murcia: Universidad de Murcia. Servicio de Publicaciones, 1998. ISBN 8483710080.
- Shields, S; Sparshott, K.J. Ship maintenance. London: Institute of Marine Engineers, 1975. ISBN 0900976519.
- The running and maintenance of marine machinery. 6th ed. London: The Institute of Marine Institute., 1992. ISBN 0907206425.