Course guide
280696 - 280696 - Inspection, Maintenance and Repair of Ship Structures

Last modified: 27/05/2025

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

Academic year: 2025 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish, English

LECTURER

Coordinating lecturer: JOEL JURADO GRANADOS

Others: Segon quadrimestre:
JOEL JURADO GRANADOS - DT, GESTN, GTM

REQUIREMENTS

To register this subject, in the Bacherlor's Degree in Marine Technologies, it must be approved the Q3 course with code 280642 - Mechanics Technology, 280646 - Naval Construction, 280644 - Ship's Theory

TEACHING METHODOLOGY

The contents of the course are given by master class. The teacher will interact with the students in class, in order to assimilate the knowledge acquired. This interaction will consist on questions related with the course. The interaction in class wil give to the student a guideline to study. Besides, several activities are planned to realized out of class time. These activities can be done individually or in group. The activities will consist on solve practical cases of the content seen on the course, encouraging the autonomous learning for the student.
Finally, the students will have the chance to visit Marina Barcelona 92 shipyard, where they can watch in situ the knowlge adquired during the course.

LEARNING OBJECTIVES OF THE SUBJECT

Understanding the processes of construction and repair of ships, structural concepts, types of inspections and certificates of ships, classification societies, ship recognition methods and main breakdowns.

STUDY LOAD

Type	Hours	Percentage
Self study	90,0	60.00
Hours large group	60,0	40.00

Total learning time: 150 h

CONTENTS

Construction and repair of ships and boats. Structural concepts.

Description:
Shipbuilding: Process shipbuilding, steel and other construction materials, painting and finishing, and testing equipment.
Ship Repair: Processes and practices of ship repair steel, planning, and execution of technical repair common types of repair work.
Ship breaking up.

Full-or-part-time: 15h
Theory classes: 15h

Recognition and Certification of ships

Description:
Certificates. National rules. International rules. Periodic inspections.

Specific objectives:
The procedures for inspection and certification of merchant vessels and pleasure and abroad.
Knowing the certificates to be carried on board ships.

Full-or-part-time: 15h
Theory classes: 15h

Classification Societies

Description:
- Operation
- Goals
- Structure
- IACS - International Association of Classification Societie
- CSR - Common Structural Rules.

Full-or-part-time: 10h
Theory classes: 10h

Recognition methods of the ship

Description:
Means to assess the condition of the vessel: visual inspection, non-destructive testing methods, pressure testing and sealing testing, performance testing, stability, toma thickness, vibration measuring tools and equipment.
Inspection programs: Recognition periodic renewal class distinctions in drydock.

Full-or-part-time: 10h
Theory classes: 10h

Failures

Description:
Classes of failures, considerations to take into account. Fatigue, corrosion under tension, the progress of corrosion, humidity and heat stress concentration factor.

Full-or-part-time: 10h
Theory classes: 10h

ACTIVITIES

name english

Description:
Visiting to MB'92 shipyard.

Full-or-part-time: 2h
Theory classes: 2h

GRADING SYSTEM

40% - FINAL PROJECT.
30% - PARTIAL EXAM.
30% - FINAL EXAM.

The test will be held on reevaluation and time specified by the Faculty. Consist of a single test may be submitted only the students who meet the requirements set out in the undergraduate academic regulations of the FNB.

EXAMINATION RULES.

Assessment tests will contain theoretical tests, practical and / or problem solving.

Considered absent does not involve any of the tests evaluated.

The test will be held on reassessment and time specified by the Faculty. Consist of only a single test Prodi presented the students who meet the requirements set out in the undergraduate academic regulations of the FNB.

BIBLIOGRAPHY

Basic:
- OMI. Reconocimientos de casco y estructuras : OMI curso modelo [edición de 2004] 3.07. Londres: Organización Marítima Internacional, 2011. ISBN 9789280101621.
- "Real decreto 1737/2010 de 23 de diciembre, por el que se aprueba el Reglamento por el que se regulan las inspecciones de buques extranjeros en puertos españoles". BOE Boletín Oficial del Estado [on line]. núm. 317, 30 desembre 2010, p. 108664-108702 [Consultation: 10/07/2018]. Available on: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2010-20055.- "Real Decreto 1837/2000, de 10 de noviembre, por el que se aprueba el Reglamento de inspección y certificación de buques civiles". BOE Boletín Oficial del Estado [on line]. núm. 285, 28 novembre 2000, p. 41142-41164 [Consultation: 10/07/2017]. Available on: https://www.boe.es/buscar/doc.php?id=BOE-A-2000-21432.- "Real Decreto 1434/1999, de 10 de septiembre, por el que se establecen los reconocimientos e inspecciones de las embarcaciones de recreo ...". BOE Boletín Oficial del Estado [on line]. núm. 218, 11 setembre 1999, p. 33009-33027 [Consultation: 10/07/2017]. Available on: https://www.boe.es/buscar/doc.php?id=BOE-A-1999-18663.