

## Course guide

### 280661 - 280661 - Work Placement

**Last modified:** 09/10/2024

**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).

**Academic year:** 2024    **ECTS Credits:** 30.0    **Languages:** Catalan, Spanish

#### LECTURER

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**Coordinating lecturer:** JUAN ANTONIO MORENO MARTÍNEZ

**Others:** Primer quadrimestre:  
JUAN ANTONIO MORENO MARTÍNEZ - GTM

Segon quadrimestre:  
JUAN ANTONIO MORENO MARTÍNEZ - GTDT

#### REQUIREMENTS

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The enrollment of External Internship can be formalized when only a maximum of 4 subjects (excluding the subject in practical sessions by boat) are required to exceed the limits of credits provided for automatic compensation authorized in each degree degree.

Practices by boat: To be able during the term to complete the internships in Vaixell, the student has the Basic Training Certificate and the Student Certificate (including the training booklet), which can only be obtained if they have passed all the subjects. both STCW competencies. Furthermore, you must have enrolled a minimum of 180 ECTS credits and have surpassed 80% of these credits (that is, you must have surpassed at least 144 ECTS credits).

To be able to carry out the practices. The student will need the Student Certificate. They may request the Student Certificate (including the training book), all students who have enrolled a minimum of 180 ECTS credits and have completed 80% of these credits (in total, must have passed 144 credits). In addition, they must be in possession of the basic training certificate.

In order to be able to board, the student will also need the following documentation:

- A) Maritime Notebook
- B) Board Training Book for Machine or Nautical Students
- C) Medical recognition
- D) School insurance

#### Business practices

The practices in company will have to be realized through agreements of educational cooperation UPC-EMPRESA and in companies related to the naval / marine sector and in agreement to the competitions of the studies that are attended.

In order to carry out curricular practices UPC-EMPRESA it is necessary that the student meet the criteria to enroll in the course of business practices. they themselves That is to say, that they remain pending to exceed a maximum of 4 subjects (excluding the subject of external practices) obligatory in addition to the limits of credits predicted by automatic compensation authorized to each degree of degree.



## DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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### Generical:

2. ABILITY TO SHAPE, MANAGE AND IMPLEMENT COMPLEX SYSTEMS IN THE FIELD OF MARINE ENGINEERING. Ability to design, management and implementation of processes, systems and / or services in the field of marine engineering, including the development of projects in the field of specialization, knowledge of basic materials and technologies, decision making, the management of the activities under the project, conducting measurements, calculations and valuations, managing specifications, regulations and mandatory standards, assessment of the social and environmental impact of technical solutions, economic valuation and resource human and material involved in the project, with a systematic and inclusive vision.

ENG) CG9. ABILITY TO SHAPE, MANAGE AND IMPLEMENT COMPLEX SYSTEMS IN THE FIELD OF MARINE ENGINEERING. Ability to design, management and implementation of processes, systems and / or services in the field of marine engineering, including the development of projects in the field of specialization, knowledge of basic materials and technologies, decision making, the management of the activities under the project, conducting measurements, calculations and valuations, managing specifications, regulations and mandatory standards, assessment of the social and environmental impact of technical solutions, economic valuation and resource human and material involved in the project, with a systematic and inclusive vision.

3. IDENTIFY I resoldre Capacitat PER L'Ambit problemes IN MARINA DE L'ENGINYERIA.

Capacitat per the plantejament i resolució of problemes de l'àmbit enginyeria assumint marina iniciatives, prenent decisions i aplicant solucions creatives in the marc d'a systematic methodology.

**Transversal:**

1. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
4. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

**TEACHING METHODOLOGY**

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The external academic practices constitute an activity of a formative nature carried out by the university student and supervised and evaluated by the universities. The objective of the same is to allow the student to apply and complement the knowledge acquired in their academic training and, thus, to favor the acquisition of competences that prepare them for the exercise of professional activities, facilitate the Their employability and foster their entrepreneurial capacity.

External practices can be carried out on board a ship (mention 1) or in related land companies in the port maritime sector.

The FNB will designate a tutor, from among the faculty assigned to the center, who will carry out the tasks of academic tutoring and evaluation for the students who are doing business practices.

The equivalence of credits for the external practices will be of 1 credit ECT = 30h of work. Therefore, the duration of the internships, both on board and in business, will be at least 4 months.

The regulations associated with external practices can be consulted on the web:

<http://www.fnb.upc.edu/sites/default/files/Normativa%20Practiques%20externes%20GRAUS.pdf>

**Business practices**

At the moment of formalizing the university-company cooperation agreement, the student will have to communicate to academic management if it is desired that the practices realized correspond to curricular practices, so that it can be verified that the established requirements are fulfilled so that so be it.

In no case do the tasks of administrative support and support to teaching can be considered external practices.

## LEARNING OBJECTIVES OF THE SUBJECT

1. Designs and implements a good strategy for advanced searches using specialized information resources. Identifies the relevance and quality of information.
2. Identify and model complex systems. Conducts analysis and qualitative approaches, establishing the uncertainty of the results. Raises hypotheses and experimental methods to validate them. It identifies major components and establishes commitments and priorities.
3. It performs the tasks from the guidelines set by the faculty, deciding the time and resources needed to achieve them. Assesses own strengths and weaknesses, acting accordingly.
4. Identify user needs and develops a definition of product-process-service as well as some initial specifications. Follows a management model of the design process based on a standard. Assesses the implementation of legislation and regulations.
5. Identifies the needs and market opportunities. Collect information to draw up the specifications of a new product, process or service. Prepares a basic business plan. Carried out the planning and implementation of a design process.
6. Acquires professional experience and a better understanding of the structure, organization, operation and activity of a business organization in the maritime sector and its environment.
7. You get new knowledge in the specific field in which is conducted the training activity.
8. Exercise generic and specific skills in a real work environment.

For the students that do the practices on board a ship at sea, the competences of the STCW Convention are:

This course will evaluate the following STCW competences: A-III/1 and all Knowledge, understanding and proficiency (KUP's) included

1. Maintain a safe engineering watch:
5. Operate fuel, lubrication, ballast and other pumping systems and associated control systems
6. Operate electrical, electronic and control systems
7. Maintenance and repair of electrical and electronic equipment
9. Maintenance and repair of shipboard machinery and equipment
10. Ensure compliance with pollution prevention requirements
12. Prevent, control and fight fires on board

## STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	4.00
Self study	720,0	96.00

**Total learning time:** 750 h

## CONTENTS

**(ENG) 1. Descripció i funcionament del propulsor**

**(ENG) -2. Descripció i funcionament dels sistemes auxiliars del vaixell**

**(ENG) -3. Descripció i funcionament del sistemes de seguretat**

**(ENG) -4. Descripció i funcionament dels sistemes de lluita contra la contaminació**

## GRADING SYSTEM

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The assessment system consists of a joint test consisting of two exercises that will have to be passed by the student once the practices have been completed.

a) In case the student does the practices on board a ship:

The first exercise consists in presenting a work / memory, with an extension between 40 and 50 pages, which includes:

1. Description and operation of the propellant
2. Description and operation of the auxiliary systems of the ship
3. Description and operation of the security systems
4. Description and operation of pollution control systems

You will have to submit the following documentation: LIM and REGISTRATION BOOK FOR TRAINING (Section V)

b) In the case of external internships in company the contents of the work must describe the company in which the practices and the tasks carried out in the same have been carried out. We will have to speak with the practice tutor to define some other, more specific, content that is necessary to include in the memory. The extension of the work must also be between 40 and 50 pages.

You must present the following documentation: Work plan approved; Annexes III and IV of the CRUE agreement

The second exercise consists in the oral description of the presented report and the tasks performed during the practices. This presentation will not have to last more than 15 or 20 minutes. Once the presentation has finished, the practice tutor will ask questions that allow a better evaluation of the student.

The final mark of practices will be calculated as the average of the first and second years.

$$N_{\text{final}} = 0.50 \cdot Ne1 + 0.50 \cdot Ne2$$

N<sub>final</sub>: Final grade

Ne1: Qualification exercise 1

Ne2: Qualification exercise 2

Students and students who opt for external practices in companies in the maritime port sector, these will not be included in the mention associated with the European graduate degree.

The subject of external practices is not likely to be compensated.

## EXAMINATION RULES.

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Practices by boat:

To be able to carry out the practices. The student will need the Student Certificate. They may request the Student Certificate (including the training book), all students who have enrolled a minimum of 180 ECTS credits and have completed 80% of these credits (in total, must have passed 144 credits). In addition, they must be in possession of the basic training certificate.

In order to be able to board, the student will also need the following documentation:

- A) Maritime Notebook
- B) Board Training Book for Machine or Nautical Students
- C) Medical recognition
- D) School insurance

In order to be able to evaluate external boat practices, the student or student must provide the duly completed training book, a photocopy of the boarding pass where there is a minimum of 4 months on board as a bridge student, a photocopy of the tasks carried out and signed by the officers of the ship and photocopy of annex 4 certifying the shipment of 4 months.

Business practices

The practices in company will have to be realized through agreements of educational cooperation UPC-EMPRESA and in companies related to the naval / marine sector and in agreement to the competitions of the studies that are attended.

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## BIBLIOGRAPHY

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### Basic:

- Olsen, Alexander Arnfinn. Introduction to ship engine room systems [on line]. New York: Routledge, 2023 [Consultation: 07/02/2025]. Available on : <https://www.taylorfrancis-com.recursos.biblioteca.upc.edu/books/mono/10.1201/9781003321095/introduction-ship-engine-room-systems-alexander-arnfinn-olsen>. ISBN 1003321097.