

Course guide

280670 - 280670 - Production Organization and Project Management

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 NAVAL SYSTEMS AND TECHNOLOGY ENGINEERING (Syllabus 2010). (Compulsory subject).	
Academic year: 2025	ECTS Credits: 7.5	Languages: Spanish

LECTURER

Coordinating lecturer:	SANTIAGO ORDAS JIMENEZ
Others:	Primer quadrimestre: SANTIAGO ORDAS JIMENEZ - DT, GESTN, MUENO ERIC JOSE PASCUAL SOLDEVILLA - DT, GESTN, MUENO

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

3. Knowledge of the maritime traffic for application to the selection and installation of the means of loading and unloading of the vessel.
4. Knowledge of methods of design of auxiliary systems of ships and artifacts.
5. Knowledge of methods of design of naval propulsion systems.

Transversal:

1. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
2. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.

TEACHING METHODOLOGY

The teaching methodology will be based on the classical teaching of theoretical concepts and the active discussion of the concepts in the class.

Project-based learning will be carried out mainly through workshops based on real or theoretical projects. They will be distributed to students in different work groups, with specific responsibilities that must organize and develop the project collectively.

In this way, the classes will be organized as coordination meetings, led by the teacher, in which the different groups exchange information and experiences, and solve the problems and doubts encountered. In addition to the coordination meetings, the different groups, which will be assigned a responsible person, will share and exchange information through the university's support platform for teaching.

LEARNING OBJECTIVES OF THE SUBJECT

The objective of this subject is to make the student know the different tools aimed at improving production planning processes in the nautical and naval industries.

The main learning outcomes are presented below:

- Uses strategic knowledge and skills for the creation and management of projects with innovative vision, applies systemic solutions to complex problems.
- Applies sustainability criteria and deontological codes of the profession in the design and evaluation of technological solutions.
- Identify the need to apply legislation, regulations and regulations.
- Knows the concept of life cycle of a product and applies it to the development of products and services in the field of naval engineering, using the appropriate legislation and legislation.
- Plan and use the necessary information for a project or academic work based on a critical reflection on the information resources used.
- Carry out the tasks assigned in the time scheduled, according to the guidelines set by the teacher or tutor. Identify the progress and degree of compliance with the learning objectives.
- Carry out the tasks based on the basic guidelines given by the teachers, deciding the time and resources needed. Evaluate your own strengths and weaknesses and act accordingly.

It identifies the user's needs and elaborates a product-process-service definition and initial specifications. Follow a management model of the design process based on a standard. Evaluate the application of applicable legislation and regulations

STUDY LOAD

Type	Hours	Percentage
Hours large group	75,0	40.00
Self study	112,5	60.00

Total learning time: 187.5 h

CONTENTS

(ENG) Organización de la producción.

Description:

Introduction. Shipyard organization. Plant distribution. Planning and production control. Cost control. Philosophies and improvement tools.

Specific objectives:

- remember main affecting factors on the shipbuilding process
- can separate different phases of the shipbuilding process
- understand the contents and methods for all production phases
- can apply learned knowledge to the preparation of the production plan

Related activities:

- Teaching
- Lectures and workshop
- Assignment work and peer review
- Excursion to shipyard
- Seminar
- Exam

Full-or-part-time: 15h

Theory classes: 4h

Guided activities: 5h

Self study : 6h

(ENG) Ergonomía y seguridad.

Description:

Ergonomics. Industrial Security. Psychosociology of work.

Specific objectives:

Define the mission of the management of the security of the company
Define the procedures and composition of the Safety Committees
Plan safety inspections
Surveillance of safety in labor practices
Signaling and orientation of industrial safety measures
Investigation of accidents
Emergency response
Define the code of safe work practices
Forms to support the management of company security

Related activities:

- Recognition of risks and association with their individual / collective protections.
- Identification of the adequate protections according to each job (EPIS).
- Placement of security elements in shipyard practice.

Full-or-part-time: 18h 30m

Theory classes: 5h

Guided activities: 6h

Self study : 7h 30m

(ENG) Gestión del proyecto, diseño y construcción.

Description:

Project stages. Project management, design and construction. Methods and techniques for project planning and programming.
Resource management. Planning and management programs. Practices.

Specific objectives:

- Understand the main contents of project management software
- Can apply the project management software for ship production scheduling

Related activities:

scheduling for the optimal balance between workload and resource taking into account:

- interdependencies between different production stages
- production feasibility

Workload:

- Production stage related man-hours and timing based on product hierarchy
- Block division -> Lifting schedule
- Block division -> Production hierarchy of block -> seam length
- ☐ Relative man-hours for each the production stage

Recourses:

- The number of work places for fabrication and assembly
- The availability of resources
- The number of employees at time t (e.g. 300 person at week 10)
- Relative production stage related man-hours (e.g. part fabrication 15% of total)
- Number of assembly place (e.g. 4 places in block assembly hall)
- ☐ The number of employees and work groups for different stages at time t

Full-or-part-time: 21h

Theory classes: 6h 40m

Guided activities: 8h 20m

Self study : 6h



GRADING SYSTEM

Class attendance will compute for the calculation of the grade. The average of class attendance and activities (Nac) will represent 50% of the final grade of the course. The final exam (Npf) will represent 50% of the final grade.

In this way, the final qualification is the sum of the following partial grades:

$$N_{\text{final}} = 0.5 N_{\text{pf}} + 0.5 N_{\text{ac}}$$

EXAMINATION RULES.

The grade of not presented will be granted to that student who has not been submitted to any act of evaluation.

RESOURCES

Other resources:

Microsoft office, project and visio

Security Regulations at work

European regulations on work at the shipyard