SUBJECT TEACHING GUIDE

G1122 - Naval Construction II

Degree in Maritime Engineering

Academic year 2025-2026

1. IDENTIFYING DATA					
Degree	Degree in Maritime Engineering			Type and Year	Compulsory. Year 4
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Naval Construction Module: Specific Technology Propulsion and Ship Services				
Course unit title and code	G1122 - Naval Construction II				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DE LA NAVEGACION Y DE LA CONSTRUCCION NAVAL
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Other lecturers	

3.1 LEARNING OUTCOMES

- 1-ABILITY TO INTERVENE, OPERATE, MANAGE, CRITICIZE AND MAKE PROGRESS ON THE FOLLOWING ACTIVITIES AND MATERIALS:

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2-parts of the ship; structure, equipment, services and systems. Integration and inter-relationship. The functionality of the components, requirements, and weaknesses of each.
3 - the process of shipbuilding, conversion or repair of the vessel. Planning, stages, means of production.
Basic components. Synthesis of complex components. Concurrent and sequential processes. Interference of processes. Diagrams schedules. Critical path.

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4-costs and deadlines. Productivity. Media, performance and organization. Evolution of each one of the axes of advance of the
productivity.
5-design and production-oriented development. Integration of production engineering. Prefabrication,
pre-Assembly, integration of components and processes. Difficulties and obstacles. Feedback and solutions.

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6-functional solutions. Classical solutions. New requirements. New media. Solutions based on
reiteration of simple elements or simple operations. Standardization. Redesign. Continuous adjustment of the factors that affect the growth of productivity.

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7-repairs and Reformas-Transformaciones. Peculiarities. -
8-framework legal and normative technical governing shipbuilding. IMO. (SOLAS international conventions, COLREG, LOADLINES, TONNAGE, MARPOL, STCW,...). Entities: Administrations, classification societies, IACS, control organizations.

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9-technical regulations: regulations IMO regulations EC, national regulations, regulations of SDC. Inspection, control and certification.

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4. OBJECTIVES
1-ABILITY TO INTERVENE, OPERATE, MANAGE, CRITICIZE AND MAKE PROGRESS ON THE FOLLOWING ACTIVITIES AND MATERIALS: - 2-parts of the ship; structure, equipment, services and systems. Integration and inter-relationship. The functionality of the components, requirements, and weaknesses of each. 3 - the process of shipbuilding, conversion or repair of the vessel. Planning, stages, means of production. Basic components. Synthesis of complex components. Concurrent and sequential processes. Interference of processes. Diagrams schedules. Critical path. - 4-costs and deadlines. Productivity. Media, performance and organization. Evolution of each one of the axes of advance of the productivity. 5-design and production-oriented development. Integration of production engineering. Prefabrication, pre-Assembly, integration of components and processes. Difficulties and obstacles. Feedback and solutions. - 6-functional solutions. Classical solutions. New requirements. New media. Solutions based on reiteration of simple elements or simple operations. Standardization. Redesign. Continuous adjustment of the factors that affect the growth of productivity. - - 7-repairs and Reformas-Transformaciones. Peculiarities. - 8-framework legal and normative technical governing shipbuilding. IMO. (SOLAS international conventions, COLREG, LOADLINES, TONNAGE, MARPOL, STCW,...). Entities: Administrations, classification societies, IACS, control organizations. - 9-technical regulations: regulations IMO regulations EC, national regulations, regulations of SDC. Inspection, control and certification. -

6. SUBJECT PROGRAM	
	CONTENTS
1	OPERATIONS IN THE SHIPYARD. ECOLOGICAL SYSTEMS, Energy Efficiency, Water treatment, garbage/waste treatment, air emissions. Ecological fire systems.
2	2. LEGAL TECHNICAL REQUIREMENTS THAT THE SHIP AND ITS PARTS MUST MEET. CERTIFICATION (Class approval & CE marking) performance of the work. Trade-offs between factors. The shipyard, its media and organization.
3	3 PRODUCTIVITY. Commercial aspects. Purchasing department. Outsourcing. Scaffolding.
4	BASIC OPERATIONS IN SHIPBUILDING. Floating, Dry Docking and Launching. Blocks & block treatment

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Exam of the subject taught in block 4	Written exam	No	Yes	40,00
Exam of the subject taught in block 2 WITHOUT BOOKS NOR DOCUMENTATION	Written exam	No	Yes	20,00
Exam of the subject taught in block 3 WITHOUT BOOKS NOR DOCUMENTATION	Written exam	No	Yes	40,00
TOTAL				100,00

Observations

If health authorities indicate the need to conduct assessment activities remotely, all planned assessment activities will be conducted through the virtual platform, with the same weighting and grading criteria.

Observations for part-time students

Students enrolled part-time in this course will not be subject to any restrictions regarding attendance at theory and classroom exercises.
All other observations will be the same as for other students. Students may participate in the same assessment activities and follow the same assessment criteria.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

BÁSICA
1. Construcción Naval y Servicios. Bonilla de Corte, Antonio. Ed San José, Carral 19. Vigo. 1984
2. Ship Construction. Eyres, D J. Ed Elsevier. 6th. 2007
3. Engineering for ship production. Lamb, Thomas. SNAME. NSRP. 1986
4. Ship Design & Construction. SNAME. Ed Taggart. 1980
5. Product Work Breakdown Structure. US Department of Commerce. NSRP. 1986
6. Tecnología de la Construcción del Buque. González de Lema, FJ. Ed U de la Coruña. 2ªed. 2007
7. Reparaciones y Transformaciones Navales. Huerga Mendoza, MA. U de Cadiz. 2005
8. Reglamentos de las diversas Sociedades de Clasificación de IACS. Partes de estructura, maquinaria, electricidad, materiales..