SUBJECT TEACHING GUIDE

G1092 - Energy Optimisation: Projects

Degree in Marine Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Marine Engineering			Type and Year	Compulsory. Year 3
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Energy Optimisation. Projects				
Course unit title and code	G1092 - Energy Optimisation: Projects				
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
Name of lecturer	TOMAS O´CALLAGHAN DIAZ
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Other lecturers	

3.1 LEARNING OUTCOMES

- Learn to solve problems in the Organization and management of: projects for repair, installation, modification, redesign and maintenance of engines, machinery and systems of ships.
  To resolve problems about lost energy in disel engine and steam genertaor

4. OBJECTIVES

Heat balance in diesel engine and steam generator
System to save energy.
Acquire abilities to evaluate the necessary considerations for the project of propulsion systems and auxiliary generators.
Acquire project management capacity.
Knowledge for consulting about rules and regulations for ship machinery projects

6. SUBJECT PROGRAM

CONTENTS	
1	Management of projects and regulations. The project engineering. Planning and control tools. The project of the merchant ship. Rules.
2	Projects for propulsion systems. Projects for auxiliary systems. Refrigeration, fuel, air, mooring and maneuver equipment.
3	Differents kinds of power and perfomance. specific consumption. overloadind in diesel engine.
4	propulsion systems
5	Waste of energy in a steam generator.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
written exam	Written exam	Yes	Yes	20,00
work	Work	No	No	4,00
Written exam	Written exam	Yes	Yes	20,00
Work	Work	Yes	Yes	6,00
Tasks and written tests	Written exam	Yes	Yes	20,00
Tasks and written tests	Work	Yes	Yes	10,00
Tasks and written tests	Written exam	Yes	Yes	20,00
TOTAL				100,00

Observations
face-to-face classes

Observations for part-time students
face-to-face classes

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Ship Design for Efficiency and Economy. H Schneekluth y V. Bertram. Butterworth Heinemann
Guía Técnica de Proyectos. Aplicación marina. Escuela Técnica Superior de Ingeniería Naval y Oceánica Madrid - MTU.
Management of Marine Design. Stian Erichsen
El proyecto básico del buque mercante, R. Alvariño, Fondo Ingeneria Naval
Máquinas para la propulsión de buques. Enrique Casanova Rivas