

SUBJECT TEACHING GUIDE

G1103 - Mechanics and Resistance of Materials

Degree in Maritime Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Maritime Engineering			Type and Year	Compulsory. Year 2
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Mechanics and Strength of Materials Module in Common with the Naval Branch				
Course unit title and code	G1103 - Mechanics and Resistance of Materials				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ESTRUCTURAL Y MECANICA				
Name of lecturer	LUIS MIGUEL MUÑIZ GONZALEZ				
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Office	E.T.S. de Náutica. Planta: + 2. DESPACHO PROFESORES (242)				
Other lecturers					

3.1 LEARNING OUTCOMES

- Capacity for organization and planning.
- Solving exercises.
- Autonomous learning.
- Ability to apply knowledge in practical situations.
- Capacity for analysis and synthesis.
- Ability to manage information.
- Oral and written communication in the language.
- Decision making.
- Ability to communicate with experts in other areas.
- Critical thinking.
- Working on an interdisciplinary team.
- Adapting to new situations.
- Creativity.
- Ability to work autonomously.

4. OBJECTIVES

Develop in students the ability to analyze any problem of mechanics and strength of materials simply and logically and the ability to apply in solving the basic principles of the behavior of materials for the design of structural elements

6. SUBJECT PROGRAM

CONTENTS

1	<ul style="list-style-type: none"> Static point Equilibrium of rigid bodies inner strength Shear and bending functions Relations between charges Determination and stability of structure plane trusses 3D Applications friction dynamic Field of velocities and accelerations
2	<ul style="list-style-type: none"> Stress balance Average normal stress Average shear axial load Normal strain Hooke's Law elastic deformation Hyperstatic axial load thermal stress torsion Deformation of a circular shaft Preliminary analysis of the efforts of a shaft Torsion formula Torsion angle flexion centroids Parallel axis theorem Deformation of straight members Flexure formula cutting Shear in straight members Formula shear Shear beams combined loads

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Solving problems and theoretical questions	Written exam	Yes	Yes	25,00
Solving exercises	Work	Yes	Yes	15,00
Lab practices	Laboratory evaluation	Yes	Yes	10,00
Solving problems and theoretical questions	Written exam	Yes	Yes	25,00
Solving exercises	Work	Yes	Yes	15,00
Lab practices	Laboratory evaluation	Yes	Yes	10,00
TOTAL				100,00
Observations				
Overcoming these three blocks serve to pass the course. The final exam is the way to recovery.				
Observations for part-time students				
A personal study, from teacher demand, will have 30% of note, and final exam 70%.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

"Mecánica vectorial para ingenieros" Beer and Johnston.Ed. Mc Graw Hill. ISBN 0-07-079926-6
 "Estática" Riley and Sturges.ISBN-84-291-4255-x
 Apuntes de la asignatura