SUBJECT TEACHING GUIDE

G749 - Elasticity and Resistance of Materials II

Degree in Mechanical Engineering

Academic year 2022-2023

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering			Type and Year	Compulsory. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Elasticity and Strength of Materials Module: Specific Mechanical Technology				
Course unit title and code	G749 - Elasticity and Resistance of Materials 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. INGENIERIA ESTRUCTURAL Y MECANICA
Name of lecturer	MIGUEL IGLESIAS SANTAMARIA
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Other lecturers	

3.1 LEARNING OUTCOMES

- To recognize the strengths and weaknesses of the different methodologies studied

4. OBJECTIVES

To be familiar with the procedures used to determine the stress, strain and deformation in structural elements.
To be able to determine and evaluate deflections in the structural elements

6. COURSE ORGANIZATION

CONTENTS	
1	Statically indeterminate beams.
2	Bending, torsion, axial forces combination. Yield criteria.
3	Energy methods in strength of materials. Castigliano. Maxwell-Betti.
4	Buckling. Euler formulae.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First exam (parts I and II)	Written exam	No	Yes	50,00
Second exam (parts III and IV)	Written exam	Yes	Yes	35,00
.	Work	No	Yes	15,00
TOTAL				100,00

Observations
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Observations for part-time students
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8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- Apuntes de clase
- C. Hoppe Atienza – A. M. De Juan de Luna. Teoremas Energeticos. Teoría y problemas. U.C.
- Carlos Hoppe. Vigas Continuas y Gerber: Teoría y Problemas. Universidad de Cantabria
- Timoshenco. Resistencia de Materiales. Thomson España