SUBJECT TEACHING GUIDE

G694 - General Mechanics

Degree in Industrial Technologies Engineering

Academic year 2023-2024

1. IDENTIFYING DATA				
Degree	Degree in Industrial Technologies Engineering		Type and Year	Compulsory. Year 2
Faculty	School of Industrial Engineering and Telecommunications			
Discipline	Subject Area: Electromechanics Module: Further Basic Training			
Course unit title and code	G694 - General Mechanics			
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	ANA MAGDALENA DE JUAN DE LUNA
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Other lecturers	

3.1 LEARNING OUTCOMES
- To solve and to critically discuss the results of rigid body problems, in Statics, Kinematics and Dynamics.
- To comprehend the theoretical background of rigid body modelization, in Statics, Kinematics and Dynamics.

4. OBJECTIVES
To solve and to critically discuss the results of rigid body problems, in Statics, Kinematics and Dynamics.
To comprehend the theoretical background of rigid body modelization, in Statics, Kinematics and Dynamics.

6. COURSE ORGANIZATION

CONTENTS	
1	KINEMATICS - Material point Kinematics. - Relative motion Kinematics. - Rigid body Kinematics. - Planar motion Kinematics.
2	STATICS - Vectos. - Forces. - Statics without friction. - Statics with friction.
3	DYNAMICS - Moments of inertia and center of mass. - Rigid body Dynamics: vectorial approach. - Rigid body Dynamics: energetic approach. - Introduction to analitic mechanics.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Statics	Written exam	No	Yes	40,00
Statics and Dynamics	Written exam	No	Yes	60,00
TOTAL				100,00

Observations
The final grade for the subject will be the result of performing the weighted average of the different grades obtained in each of the blocks. If in any of the blocks the grade is lower than the minimum, the maximum grade will be 4.9, even if the weighted average is greater than or equal to 5.0. When the resulting average is less than 5.0 points, the failed blocks may be recovered in the extraordinary call, keeping the note of the approved blocks. It will be necessary to indicate prior to the extraordinary examination which blocks are to be recovered. In no case will the grades of the approved blocks be kept for subsequent courses. Given the current uncertain health situation, in case that the competent health and educational authorities do not allow a face-to-face evaluation, a distance evaluation modality will be adopted using telematic means.

Observations for part-time students
All students have the same assessment regulation

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- Niembro de la Bárcena, J.L. e Iglesias Santamaría, M. "Apuntes de Mecánica. Estática. Teoría y Problemas".
- Niembro de la Bárcena, J.L. y Fernández del Rincón, A. "Apuntes de Mecánica. Cinemática. Teoría y Problemas".
- Niembro de la Bárcena, J.L. y De Juan de Luna, A.M. "Apuntes de Mecánica. Dinámica. Teoría y Problemas".
- Bastero, J. M.; Casellas, J., "Curso de Mecánica", Ed. Eunsa.
- Agulló Batlle, J. "Mecánica de la partícula y del sólido rígido". Publicaciones OK Punt.
- Prieto Alberca, "Curso de Mecánica Racional. Cinemática y Estática. Dinámica". Aula Documental de Investigación.
- A. Bilbao y E. Amezua, "Mecánica Aplicada",
- Beer, F. P.; Johnston, E. R., "Mecánica vectorial para ingenieros, estática y dinámica", Ed. McGraw Hill
- Riley Sturges "Ingeniería Mecánica. Estática y Dinámica". Ed. Reverte.
- "Working Model3D. Tutorial Guide"
- "Working Model3D. User's Manual"