

SUBJECT TEACHING GUIDE

G694 - General Mechanics

First Degree in Industrial Technologies Engineering

Academic year 2025-2026

1. IDENTIFYING DATA					
Degree	First 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)		
Knowledge Field	Industrial engineering, mechanical engineering, automation engineering, industrial organization engineering and navigation engineering				
Web					
Language of instruction	Spanish	English Friendly	Yes	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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Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO (S2045)				
Other lecturers					

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. SUBJECT PROGRAM	
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 course will be the result of the weighted average of the different marks obtained in each of the assessments. If the grade in any of the assessments is below the minimum required, the maximum final grade will be 4.9, even if the weighted average is equal to or higher than 5.0. When the resulting average is lower than 5.0, the failed assessments may be retaken during the resit exam session, while the grades of the passed assessments will be retained. Under no circumstances will the grades of passed sections be carried over to subsequent academic years.				
Observations for part-time students				
All students have the same assessment regulation				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
<ul style="list-style-type: none"> - 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"

