[GJJ206] MECHANICAL SYSTEMS DESIGN AND TESTING

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING			**Subject**	?
Semester	1	**Course**	4	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	EUSKARA/CASTELLANO/ENGLISH
Credits	4,5	**Hours/week**	3.75	**Total hours**	67.5 class hours + 45 non-class hours = **112.5 total hours**

2030 AGENDA GOALS

PROFESSORS

ARANA OSTOLAZA, AITOR
IZQUIERDO ORTIZ DE LANDALUCE, MIKEL

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
GRAPHIC EXPRESION	*(No previous knowledge required)*
PHYSICS	
ELECTROMECHANICAL SYSTEMS	
MATERIAL STRENGTH AND ELASTICITY	

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GJR402 - To know and apply principles for the design and testing of machines and mechanical systems			x	4,02
G-RTR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and/or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,24
G-RTR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,24
			Total:	4,5

KC: Knowledge or Content / SK: Skills / AB: Abilities

CONTENTS

[!]

1. ENSAYOS MECÁNICOS

1.1. Instrumentación, sensores y estensometría

1.2. Análisis tiempo vs frecuencia (monitorización máquinas)

2. DISEÑO MECÁNICO

2.1. Rodamientos

Dimensionado de rodamientos

Diseño de conjuntos basados en rodamientos

2.2. Acoplamientos

2.3. Uniones desmontables

2.4. Ejes

Diseño de ejes

Alineación de ejes

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Presentaciones en clase*
[!] *Programas*
[!] *Apuntes de la asignatura*
[!] *Consultas en páginas web relacionadas con el tema*

Bibliography

J. Hamrock, O. Jacobson, R. Schmid. Fundamentals of machine elements.Third edition. Editorial Taylor & Francis Group, LLC. 2014

Peter R.N.Childs. Mechanical Design Engineering Handbook. Elsevier Ltd. 2014

John Piotrowski. Shaft Alignment Handbook. CRC Press. 2006.

Hung Nguyen-Schäfer. Computational Design of Rolling Bearings. Springer (2016)

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=MECATRONICA41&ejecuta=15&_ST