SUBJECT TEACHING GUIDE

G754 - Thermal Machines and Motors

Degree in Mechanical Engineering
First Degree in Mechanical Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering First Degree in Mechanical Engineering			Type and Year	Compulsory. Year 3 Compulsory. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Machines and Thermal Motors Module: Further Mechanical Technology				
Course unit title and code	G754 - Thermal Machines and Motors				
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 ELECTRICA Y ENERGETICA
Name of lecturer	JORGE TOMAS CUELI LOPEZ
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Other lecturers	SEVERIANO FIDENCIO PEREZ REMESAL MANUEL ODRIOZOLA RODRIGUEZ

3.1 LEARNING OUTCOMES

- Knowledge of machines and real heat engines. Foundations and principles of operation of reciprocating or rotary machines, with their actual development cycles, behavior, and laboratory tests (alternative M.).

4. OBJECTIVES

To provide students with basic knowledge about Heat Engines must possess a graduate in Mechanical Engineering.

6. SUBJECT PROGRAM	
CONTENTS	
1	Alternative Heat Engines (Key characteristics and parameters. Cycles engines work. Cycle air. Renewal load 4 T and 2T engines. Fuels. Requirements MEP mixing engines. Characteristic curves. Test engines)
2	Steam turbines (Key features and components. Turbines Action. Reaction turbines.)
3	Gas turbines (Key features and components. Ideal and real cycles. Combined Cycle) Gas turbines (Key features and components. Ideal and real cycles. Combined Cycle) Gas turbines (Key features and components. Ideal and real cycles. Combined Cycle)
4	Other Heat Engines (rotary motors. Reactors)

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Evaluation method Description examination 1	Written exam	No	Yes	45,00
Evaluation method Description examination 2	Written exam	Yes	Yes	45,00
Laboratory practice evaluation	Others	No	No	10,00
TOTAL				100,00

Observations

It is expected that in the event that the health and / or educational authorities do not allow the theoretical-practical examination of the subject to be carried out in person, this will be done through the Moodle platform. To do this, students must have a computer and internet connection on the day of the exam.
Not parties to the September session are saved.

In none of the tests using programmable calculators or electronic devices that establish communication is allowed.

Observations for part-time students

Part-time students may pass the subject in the ordinary and extraordinary exams.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- "Turbomáquinas Térmicas". C. Mataix, Dossat, 1990.
- "Termodinámica Técnica y Máquinas Térmicas". C. Mataix
- "Termodinámica Lógica y Motores Térmicos". J. Agüera
- "Motores de combustión interna alternativos". Muñoz-Payri. U.P. Valencia, 2000