Course guide
240EI021 - 240EI021 - Thermal Machines

Last modified: 16/05/2023

Unit in charge: Barcelona School of Industrial Engineering
Teaching unit: 724 - MMT - Department of Heat Engines.

Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2014). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 4.5 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: De Medina Iglesias, Vicente César

Others:
Ernesto Gutiérrez
De Medina Iglesias, Vicente César
Grau Mur, Ramon
Ardanuy Agulló, Miquel
Cascante Cirici, Roger
López Sanz, Eduardo
Gonzalo Tarrago, David
López Sanchez, Jesús Andrés

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEMEI05. Knowledge and ability for the design and analysis of thermal machines and engines, hydraulic machines and heating and cooling plants.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

Show the different types of heat engines
Define its operation and critical points
Provide it with the necessary criteria for a correct use and / or the correct choice, knowing the environmental impact caused

STUDY LOAD

Type	Hours	Percentage
Hours large group	27,0	24.00
Self study	72,0	64.00
Hours small group	13,5	12.00

Total learning time: 112.5 h

CONTENTS

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 17h
Theory classes: 4h
Laboratory classes: 12h
Guided activities: 1h

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 4h
Theory classes: 4h

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 3h
Theory classes: 2h
Laboratory classes: 1h

title english

Description:
content english

Full-or-part-time: 3h
Theory classes: 2h
Laboratory classes: 1h

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 2h
Theory classes: 2h

title english

Description:
content english

Full-or-part-time: 3h
Theory classes: 2h
Laboratory classes: 1h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:
- ; Callejón i Agramunt, Ismael; Forns Farrús, Sergi. Motores alternativos de combustión interna. Barcelona: Edicions UPC, 2005. ISBN 9788483018187.
- Muñoz Torralbo, Manuel; Payri González, Francisco. Motores de combustión interna alternativos. [3ª ed.]. Madrid: Sección de Publicaciones de la E.T.S. de Ingenieros Industriales. Fundación General-U.P.M, DL 1989. ISBN 8486451019.