Course guide
240IEN33 - 240IEN33 - Extended Thermal Machines

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

Degree: MASTER'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2012). (Optional subject).
MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN RESEARCH IN MECHANICAL ENGINEERING (Syllabus 2021). (Optional subject).

Academic year: 2022  ECTS Credits: 4.5  Languages: Spanish

LECTURER

Coordinating lecturer: De Medina Iglesias, Vicente César
Others: De Medina Iglesias, Vicente César

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEMEI06. Knowledge and abilities which allow to understand, analyse, operate and manage the different sources of energy.
CEEENE5. The student will acquire the capacity to operate a power plant, regarding to the thermal machines which integrate it, considering the elements or parts making it up, its specific functions and its optimal conditions of operation.
CEMEI05. Knowledge and ability for the design and analysis of thermal machines and engines, hydraulic machines and heating and cooling plants.
CEAU12. The student will be able to analyze the economic viability of a project in automotive engineering.

Transversal:
CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

The objectives can be seen in Spanish description

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>13,5</td>
<td>12.00</td>
</tr>
<tr>
<td>Self study</td>
<td>72,0</td>
<td>64.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>27,0</td>
<td>24.00</td>
</tr>
</tbody>
</table>

Total learning time: 112.5 h
CONTENTS

<table>
<thead>
<tr>
<th>Title English</th>
<th>Description: content english</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-or-part-time: 2h</td>
</tr>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title English</th>
<th>Description: content english</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-or-part-time: 6h</td>
</tr>
<tr>
<td></td>
<td>Theory classes: 6h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title English</th>
<th>Description: content english</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-or-part-time: 19h</td>
</tr>
<tr>
<td></td>
<td>Theory classes: 19h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title English</th>
<th>Description: content english</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-or-part-time: 13h 30m</td>
</tr>
<tr>
<td></td>
<td>Laboratory classes: 13h 30m</td>
</tr>
</tbody>
</table>

ACTIVITIES

<table>
<thead>
<tr>
<th>Name English</th>
<th>Full-or-part-time: 13h 30m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 13h 30m</td>
</tr>
</tbody>
</table>

GRADING SYSTEM
BIBLIOGRAPHY

Basic:

Complementary: