A consolidated intermediate level of English is required to carry out activities effectively. In fact, classes will resume the study of the English language from a technical perspective.

**Transversal:**
1. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.

**TEACHING METHODOLOGY**
- Listening Comprehension
- Reading Comprehension
- Group work
- Pair work
- Expository lectures
- Group presentations
LEARNING OBJECTIVES OF THE SUBJECT

Listening:
- to understand native speakers, professionals, and students talking about their work and study
- To understand experts talking informally about technical aspects

Speaking:
- to communicate about technical topics

Reading:
- to understand a wide variety of text including diagrams, tables, graphs, course brochures, and job advertisements
- to compare different sources of information, written and spoken

Writing:
- to write simple descriptions and explanations on technical subjects related to student's field of study
- to write study- and work-related documents

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>135,0</td>
<td>60.00</td>
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<tr>
<td>Hours large group</td>
<td>90,0</td>
<td>40.00</td>
</tr>
</tbody>
</table>

Total learning time: 225 h

CONTENTS

1.- Metals

Full-or-part-time: 22h 30m
Theory classes: 9h
Self study: 13h 30m

2.- Measurement

Full-or-part-time: 22h 30m
Theory classes: 13h 30m
Self study: 9h

3.- Design and function

Full-or-part-time: 22h 30m
Theory classes: 9h
Self study: 13h 30m

4.- Energy, heat and work

Full-or-part-time: 22h 30m
Theory classes: 9h
Self study: 13h 30m
<table>
<thead>
<tr>
<th>Course</th>
<th>Full-or-part-time</th>
<th>Theory classes</th>
<th>Self study</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.- Control devices</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
<tr>
<td>6.- Pumps</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
<tr>
<td>7.- Air-conditioning systems</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
<tr>
<td>8.- Diesel engines</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
<tr>
<td>9.- Data communications</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
<tr>
<td>10.- Electric power systems</td>
<td>22h 30m</td>
<td>9h</td>
<td>13h 30m</td>
</tr>
</tbody>
</table>

**GRADING SYSTEM**

- Exam units 1 - 5: 40%
- Exam units 6 - 10: 40%
- Presentation: 15%
- Tasks: 5%

There is NO re-assessment.
EXAMINATION RULES.

During the exams, the use of electronic devices, such as mobile phones, tablets or smart watches, is not allowed. The presentation is not a reading exercise. The use of paper notes or electronic devices will not be allowed. The only accepted support is the screen with presentation software (PowerPoint, Prezi, etc...)

BIBLIOGRAPHY

Basic:

Complementary: