Degree competences to which the subject contributes

Specific:
CEEVEHI1. MUEA/MAS: Sufficient applied knowledge of advanced, experimental and computational aerodynamics (specific competency for the specialisation in Aerospace Vehicles).
CEEVEHI2. MUEA/MAS: Sufficient applied knowledge of the aeroelasticity and structural dynamics of aircraft (specific competency for the specialisation in Aerospace Vehicles).
CEEVEHI3. MUEA/MASE: Applied knowledge of composite materials technology and a capacity for designing the basic elements of these materials (specific competency for the specialisation in Aerospace Vehicles).

Learning objectives of the subject
To know the different systems that integrate an aeroplane, his architecture and operation.
To understand the structural design of an aeroplane.
### Study load

<table>
<thead>
<tr>
<th><strong>Total learning time:</strong> 125h</th>
<th>Hours large group:</th>
<th>30h</th>
<th>24.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group:</td>
<td>15h</td>
<td>12.00%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>80h</td>
<td>64.00%</td>
</tr>
</tbody>
</table>
## Content

<table>
<thead>
<tr>
<th>Module 1: Power Systems</th>
<th>Learning time: 37h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 12h</td>
</tr>
<tr>
<td></td>
<td>Self study : 25h</td>
</tr>
</tbody>
</table>

**Description:**
- Hydraulic
- Pneumatic
- Electrical

**Related activities:**
- Activity 1: Classes of theory
- Activity 2: Partial examination

<table>
<thead>
<tr>
<th>Module 2: Representative Systems</th>
<th>Learning time: 38h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 13h</td>
</tr>
<tr>
<td></td>
<td>Self study : 25h</td>
</tr>
</tbody>
</table>

**Description:**
- Flight control
- Air conditioning
- Fuel

**Related activities:**
- Activity 1: Classes of theory
- Activity 3: final examination
Module 3: Structure

**Description:**
- Introduction to aircraft structure:
  - Fuselage
  - Wings
  - Pylons
  - Doors

**Related activities:**
- Activity 1: Classes of theory
- Activity 3: Final examination

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>20h</th>
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<tbody>
<tr>
<td>Theory classes:</td>
<td>5h</td>
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<tr>
<td>Self study:</td>
<td>15h</td>
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</tbody>
</table>

Module 4: Development work

**Description:**
- Work to develop a system to be exposed

**Related activities:**
- Activity 4: Oral exposition

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>30h</th>
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</thead>
<tbody>
<tr>
<td>Practical classes:</td>
<td>15h</td>
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<tr>
<td>Self study:</td>
<td>15h</td>
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</table>

**Qualification system**

\[ NF = 0,40 \text{ EP} + 0,40 \text{ EF} + 0,20 \text{ TD} \]

NF: Final score  
EP: Partial examination  
EF: Final examination  
TD: Development work

For those students who meet the requirements and submit to the reevaluation examination, the grade of the reevaluation exam will replace the grades of all the on-site written evaluation acts (tests, midterm and final exams) and the grades obtained during the course for lab practices, works, projects and presentations will be kept.

If the final grade after reevaluation is lower than 5.0, it will replace the initial one only if it is higher. If the final grade after reevaluation is greater or equal to 5.0, the final grade of the subject will be pass 5.0.

**Bibliography**