The main objective of this course is to bring students to the different aspects of the Aircraft design:
1. Economics and Planning. Project Phases
2. Functional design of the different parts of an airplane. Integration and interferences.
3. Influence of the actions of the aircraft and aerodynamics in the design process
# 220032 - Aeroplane Design

## Study load

<table>
<thead>
<tr>
<th></th>
<th>Total learning time: 112h 30m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group:</td>
<td>31h</td>
</tr>
<tr>
<td>Hours medium group:</td>
<td>14h</td>
</tr>
<tr>
<td>Self study:</td>
<td>67h 30m</td>
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<tr>
<td></td>
<td>27.56%</td>
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<td>12.44%</td>
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<td>60.00%</td>
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</tbody>
</table>

## Content

### Introduction to aircraft design

**Learning time:** 14h  
Theory classes: 4h  
Practical classes: 2h  
Self study: 8h

**Description:**

### Design of several functional blocks of a plane

**Learning time:** 44h  
Theory classes: 12h  
Practical classes: 5h  
Self study: 27h

**Description:**

### Actions and global design

**Learning time:** 37h 30m  
Theory classes: 10h  
Practical classes: 5h  
Self study: 22h 30m

**Description:**

### Structural design of aircraft

**Learning time:** 17h  
Theory classes: 5h  
Practical classes: 2h  
Self study: 10h

**Description:**
### Planning of activities

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>THEORY LESSONS</strong></td>
<td>88h</td>
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<tr>
<td></td>
<td>Theory classes: 28h</td>
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<tr>
<td></td>
<td>Self study: 60h</td>
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<tr>
<td><strong>PRACTICAL LESSONS</strong></td>
<td>10h</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 10h</td>
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<tr>
<td><strong>EXAM 1</strong></td>
<td>3h 30m</td>
</tr>
<tr>
<td></td>
<td>Theory classes: 1h 30m</td>
</tr>
<tr>
<td></td>
<td>Self study: 2h</td>
</tr>
<tr>
<td><strong>EXAM 2</strong></td>
<td>3h 30m</td>
</tr>
<tr>
<td></td>
<td>Theory classes: 1h 30m</td>
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<tr>
<td></td>
<td>Self study: 2h</td>
</tr>
<tr>
<td><strong>DELIVERABLE 1</strong></td>
<td>3h 45m</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 2h</td>
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<tr>
<td></td>
<td>Self study: 1h 45m</td>
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<tr>
<td><strong>DELIVERABLE 2</strong></td>
<td>3h 45m</td>
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<tr>
<td></td>
<td>Practical classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study: 1h 45m</td>
</tr>
</tbody>
</table>

### Qualification system

The rating system will consist of a Partial Exam, a Final Exam and a Deliverable Exercise.

The deliverable exercise will be done during the second part of the course.

Final Grade = 0.4*Ex\_partial + 0.4*Ex\_final + 0.2*Deliv

In case of being unable to attend to the partial exam, not passing it or in case the student wanted to improve its grade, the student will have another exam to replace its grade, the day of the final exam. In case this day was not able for this exam, the professor would inform, via Atenea, of the alternative date.
220032 - Aeroplane Design

Regulations for carrying out activities

The exams will consist of theory and practical exercises. The theory will be assessed through short questions and the practical part will be evaluated through real case studies.

The deliverables exercises will be made outside the class.

Bibliography

Basic:

Complementary: