The Aeronautics and Space major provides opportunities in:

- Major French, European and global groups in the aeronautics and space industry
- Aeronautics and space groups’ partner organisations and equipment manufacturers
- Engineering and technological consulting firms
- Public and private research organisations in the aeronautics, space and defence industry
- Companies dealing with the scientific and technical challenges associated with the management and optimisation of air traffic and transport
- Companies dealing with satellite operations
- Airlines
- Freight companies
- Aeronautical maintenance companies
- Airport operators

TARGETED POSITIONS
- Consulting engineers
- Aeronautics and space systems engineer
- R&D engineer
- Technical sales engineer
- Transversal project management engineer
- Aeronautics/space maintenance engineer
- Operations engineer
- Industrialisation engineer

PROJECTS
In Year 4, an engineering systems project on a drone is carried out.
In Year 5, projects are offered by industry executives relating to each track.

ANY QUESTIONS?
Odile TISSIER
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For further information please check the “Application process for international students” section on our website www.epf.fr/en

Charles BUSSY
Space Components Coordination Officer
Centre national d’études spatiales (Class of 2015)
I chose the “Aeronautics and Space” major with a view to deepening my knowledge, after the programs on aeronautics we had been following in previous years. If you like the technical and mathematical aspects of engineering, all the courses are fascinating - you can truly discover the world of space, studying the science behind satellites, rocket engines and stealth and even coding with Matlab.

The teaching is of high quality, as evidenced in the “tesorer” project: using a specially designed launcher and its performance in collaboration with the Centre national d’études spatiales (National Center for Space Studies) was probably the most successful project in all my time at EPF.

As regards my final year project, I carried it out at ONERA (the French Aerospace Lab), where I needed to study the aerodynamics and deformation of a weather balloon.

CAREER PROSPECTS

The Aeronautics and Space major provides opportunities in:

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PROGRAM AIMS

The pedagogical aim of this major is to train generalist engineers with a solid knowledge base of the aeronautics and space industry combined with strong skills in systems engineering, which is a structured approach of multidisciplinary design and integration.

With systems engineering as the common theme, students acquire broad skills on all aspects of aeronautical and spacecraft design.

PROGRAM STRUCTURE

The Aeronautics and Space major extends over two academic years and is organised around two in-class semesters, alternating with two internship semesters: a student engineer internship in Year 4 and a "final year project" internship in Year 5.

During this major, students can finalise the engineer profile they choose, by following one of the three tracks offered:

- Study & Design
- Industrialisation & Production
- Operations & Maintenance

These three tracks enable to discover all the engineering jobs of the aeronautics and space business sector.

COMPULSORY CUs – YEAR 4

<table>
<thead>
<tr>
<th>COURSE UNIT</th>
<th>HOURS</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools for engineers</td>
<td>64 h</td>
<td>5 ECTS</td>
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<tr>
<td>Labour Law - Business Game - Statistics for engineers</td>
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<tr>
<td>System Design- Systems Engineering</td>
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<tr>
<td>Complex Systems Engineering - Applied Systems Engineering</td>
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<tr>
<td>Aircraft Design - Spacecraft Design</td>
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<td></td>
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<tr>
<td>Fatigue - Damages - Tolerance</td>
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<td></td>
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<tr>
<td>Structures Dynamics (experimental and simulation)</td>
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<td></td>
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<tr>
<td>Tests and instruments</td>
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<td></td>
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<tr>
<td>Aeronautics &amp; Spacecraft</td>
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<td></td>
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<tr>
<td>Introduction to Aeronautics</td>
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<tr>
<td>Engineering - Aircraft Design</td>
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<td></td>
</tr>
<tr>
<td>Systems Engineering Project (drone)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking</td>
<td></td>
<td>1 ECTS</td>
</tr>
</tbody>
</table>

STUDY & DESIGN

- Knowing and being able to use to good purpose the essential tools for engineers.
- Understanding control systems and constraint systems.
- Knowing how to design and calculate the dimensions of mechanical systems.

COMPULSORY CUs – YEAR 5

<table>
<thead>
<tr>
<th>COURSE UNIT</th>
<th>HOURS</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-board Servitudes - Flight Control</td>
<td></td>
<td></td>
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<tr>
<td>Aircraft Electrical systems - Launcher Electrical systems</td>
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<td></td>
</tr>
<tr>
<td>Systems Engineering Project (drone)</td>
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<td></td>
</tr>
<tr>
<td>Project</td>
<td></td>
<td>150 h</td>
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</tbody>
</table>

OPERATIONS & MAINTENANCE

- Knowing air and space operations, as well as the associated legislation and certification.
- Knowing the issues and rules relating to maintenance.

ELECTIVE CUs – YEAR 5 – 1 track to be chosen

<table>
<thead>
<tr>
<th>STUDY &amp; DESIGN</th>
<th>HOURS</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeronautical operations - Space operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aeronautical Maintenance and Regulations - Integrated Logistics Support (ILS) - Global Support Package (GSP)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Being able to design and calculate dimensions of mechanical systems.
- Being able to design embedded systems.