



MASTER'S DEGREE in Aerospace Engineering

Master accredited by the French Ministry of Higher Education and Research with possibilities to continue for a PhD.

3 research laboratories of Université de Lyon :



Initial and continuous training

Objectives

- ▶ To train future technical leaders and researchers to different aspects of the aerospace industry, from major constructors to component suppliers.
- ▶ To make students aware of the codes, languages and common practices of the industry.
- ▶ To develop international/intercultural skills.
- ▶ To provide initial training in continuous optimization of components, taking into account manufacturing and maintainability constraints.

Strategic axes / social challenges

- ▶ Science and Engineering for a sustainable society.
- ▶ Aeronautics and Space.
- ▶ Increasing the competitiveness of the industrial economy through innovation and entrepreneurship.



Prerequisites

- ▶ First degree in an appropriate Engineering discipline or in Applied Physics.
- ▶ Certified B1 level in English (CEFRL).

Scientific fields

- ▶ Fluid Mechanics and Energy.
- ▶ Solid and Structural Mechanics.
- ▶ Materials.
- ▶ Control Engineering.

Courses in English

90% During M1.

UP to 70% During M2 depending on elective courses.





Master's degree in Aerospace Engineering

Two options : PAS : Aerospace Propulsion
 DDC : Dynamic & Sustainability of Composite materials

S1 PAS & DDC	Language (French)	Advanced design project	Lean management	Innovation management	Fundamentals of compressible and viscous flow analysis, Mechanics of solids, materials and structures, Numerical simulations for solid and fluid mechanics, Experimental techniques for solid and fluid mechanics
S2 DDC	Language (French)	Advanced research project	Intercultural studies	Rotors dynamics in mechanical engineering, Introduction to random vibration, Interactive design and FabLab practices or/ Observation and analysis of materials, Selection of materials, Intelligent mecatronic systems or/ Polymer materials: physical properties and innovation	
S2 PAS				Numerical methods for mechanics, Interactive design and FabLab practices or/ Observation and analysis of materials, Adaptive filtering: application to active noise control or/ Space physics and solar-terrestrial coupling, Aircraft turbojets, Optimal design and computational fluid dynamics	



S3 PAS	Aerothermodynamics of turbomachinery	Aircraft predesign project	Propulsion design project	2 elective courses in a short list of 8 choices *		3 elective courses in a list of 24 choices *	
S3 DDC	P3 project: Process, product and performances	Materials and structures *	Fluid-structure interactions	Structural health monitoring	Noise (transportation & vibration control)*	Language	Mathematical analysis and numerics
S4 PAS & DDC	Master Thesis research project (5 to 6 months)						

* Please visit our website below for more informations

Contacts

Program managers

M1 + M2 PAS path : Stéphane Aubert (ECL)

M2 DDC path : Mohamed Ichchou (ECL)

Management of applications
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More information :

<http://www.ec-lyon.fr/formation/master/masters-internationaux/master-aeronautique-espace>

