

**Master's degree in Aerospace Engineering  
2021/2022**

**CURRICULUM FLUID DYNAMIC/PROPULSION**

First year		
First semester <sup>#</sup>		
Courses	Language	Credits
<b>Mechanics applied to Aerospace Engineering</b> <b>OR</b> <b>Mathematical Methods for Engineering</b>	<b>Italian</b>	<b>9</b>
<b>Flight Dynamics and simulation</b>	<b>Italian</b>	<b>9</b>
<b>Computational Fluid Dynamics</b>	<b>Italian</b>	<b>9</b>
Second semester <sup>#</sup>		
<b>Reliability and risk in Aerospace Engineering</b> <b>OR</b> <b>Economy and organization of aerospace industry</b>	<b>Italian</b>	<b>6</b>
<b>Aircraft Aerodynamics</b>	<b>Italian</b>	<b>9</b>
<b>Space Propulsion</b>	<b>Italian</b>	<b>9</b>

Second Year			
Activities	Language	Credits	Semester <sup>#</sup>
<b>Curriculum autonomous choice Courses<sup>*</sup></b> (2 courses of 9 credits + 2 courses of 6 credits)	<b>English/Italian</b>	<b>30</b>	<b>I/II</b>
<b>Other autonomous choice Courses<sup>§</sup></b> (1 course of 9 credits + 1 courses of 6 credits)	<b>English/Italian</b>	<b>15</b>	<b>I/II</b>
<b>Traineeship</b>	<b>English</b>	<b>12</b>	<b>II</b>
<b>Thesis</b>	<b>English</b>	<b>12</b>	<b>II</b>

**(\*) Curriculum autonomous choice Courses (30 Credits) – Fluid dynamic/Propulsion**

<b>*Curriculum autonomous choice Courses</b>	<b>Language</b>	<b>Credits</b>	<b>Semester#</b>
<b>Rotary wing Aerodynamics</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Hypersonic Aerodynamics</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Experimental Fluid Dynamics</b>	<b>English</b>	<b>9</b>	<b>I</b>
<b>Fluid-Structure Interaction</b>	<b>English</b>	<b>6</b>	<b>I</b>
<b>Aeroelasticity</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Fluid Dynamic Stability</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Space Experiments</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Turbulence</b>	<b>Italian</b>	<b>6</b>	<b>II</b>

**(§) Autonomous choice Courses (15 Credits)**

**Autonomous courses can be selected among the following:**

- 1. Aerospace Engineering Master's degree Curricula (Aeronautics, Fluid dynamic/Propulsion, Space)**
- 2. Other courses**

<b>OTHER COURSES</b>			
<b>Courses</b>	<b>Language</b>	<b>Credits</b>	<b>Semester<sup>#</sup></b>
<b>Combustion and Fluid Dynamics of recreative systems</b>	<b>Italian</b>	<b>6</b>	<b>I</b>
<b>Chemical fundamentals of technologies</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Electro-magnetic basics for Space applications</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Geometrical Modelling and virtual Prototyping for Aerospace Engineering</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Design Principles for wind and ocean renewable energy system</b>	<b>Italian</b>	<b>6</b>	<b>I</b>
<b>Radar System</b>	<b>Italian</b>	<b>9</b>	<b>I</b>
<b>Statistical lab for industrial data analysis</b>	<b>English</b>	<b>9</b>	<b>I</b>
<b>Signal and Image Processing</b>	<b>Italian</b>	<b>9</b>	<b>II</b>
<b>Elastodynamics and structural health monitoring principles</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Experimental Vibroacoustic</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Electrical basics for Aeronautics</b>	<b>Italian</b>	<b>6</b>	<b>II</b>
<b>Impact dynamics</b>	<b>English</b>	<b>6</b>	<b>II</b>
<b>Machine Learning and big data</b>	<b>English</b>	<b>9</b>	<b>II</b>
<b>Automotive Propulsion systems</b>	<b>English</b>	<b>9</b>	<b>II</b>
<b>Aerospace Design Project</b>	<b>English</b>	<b>9</b>	<b>Annual</b>

### #Calendar of didactic activities - Year 2021/2022

	<b>Start</b>	<b>End</b>
<b>1<sup>st</sup> didactic period</b>	20 September 2021	17 December 2021
<b>1<sup>st</sup> exams period</b>	18 December 2021	26 February 2022
<b>March exams</b>	2 March 2022	31 March 2022
<b>2<sup>nd</sup> didactic period</b>	7 March 2022	10 June 2022
<b>2<sup>nd</sup> exams period</b>	11 June 2022	30 July 2022
<b>3<sup>rd</sup> exams period</b>	1 September 2022	30 September 2022
<b>October exams</b>	1 October 2022	31 October 2022