

# AEROSPACE ENGINEERING



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**CAMPUS**

## AEROSPACE ENGINEERING

# PHD PROGRAMS

### Programme

The PhD programme in Aerospace Engineering aims at educating students and creating world-class researchers in all the main technological disciplines of the aerospace field. It is proposed by the Department of Aerospace Science and Technology and is part of the PhD School of the Politecnico di Milano. The course has a duration of three years and requires the acquisition of 180 credit points (ECTS), including possible study-abroad periods and internships in private or public institutions. Courses are given at the Campus Bovisa of the Politecnico di Milano.

### Mission and goals

The aim of the PhD programme is acquisition of the high level of competence required to carry out innovative research and/or state of the art advanced applications in: industries, research centres, Universities and service companies operating in the aerospace industrial and research area, including all fields having any connection with aerospace. The level of the programme should allow graduates to compete successfully in both the European and International aerospace environment.

The PhD programme covers a wide range of topics related to the aerospace engineering field. Based on historical aerospace disciplines such as, for example, Aerodynamics and Fluid Mechanics, Structures and Material, Flight Mechanics and Control, Propulsion, Space Mission Design, the programme includes currently emerging disciplines requiring an enhanced multi-disciplinary approach. Particular emphasis is given to research on rotary wing aircraft which requires understanding of the underlying physical processes, integration of multiple disciplines, an effective use of sophisticated mathematical models and of numerical and experimental methods. To reflect this situation, the programme gives special emphasis to the development of multi-disciplinary thinking and problem-solving skills in

students, while striving to give the students a solid knowledge of the fundamental physical phenomena and of all necessary state-of-the-art methods and tools. Successful graduates of the program are expected to be able to conduct and manage original cutting edge research in the aerospace technology domain, with an ability to rapidly move in neighbouring areas such as wind power, automotive engineering, or other related high-tech engineering fields. Using both computational and experimental approaches, over the years PhD students in Aerospace Engineering have developed research relevant to aircraft and space applications but also to technical areas not strictly related to the aerospace field.

## **Career Opportunities**

Due to the breadth and interdisciplinary nature of the aerospace arena, the professional skills attainable span a wide area and are not limited to just a few specific topics. The PhD therefore aims to create high level specialists in most domains related to aerospace activities.

In such context, a high level of competence can be gained either in a single subject or in the integration of multiple subjects such as: dynamics and control, fluid mechanics, systems and equipment, flight mechanics, passive structural safety, intelligent and automated systems, structures and materials, aeroservoelasticity, aerospace propulsion, space mission and satellite design.

**Eligible students** Highly motivated students with a solid engineering background.

**Scholarships** Around 5 scholarships of about 1400 Euro of monthly net income are available for students each year, as well as some thematic scholarships for PhD thesis topics supported by industry. Students without a scholarship are usually supported within the research group they work with, via contracts for participating in research projects. PhD students have access to funds for the participation to summer schools, conferences and/or the purchase of educational material.

## **Contacts**

For further information, please visit the following web site:

[www.dottorato.polimi.it/en/](http://www.dottorato.polimi.it/en/) or contact the School of Doctoral Programmes - Politecnico di Milano at <[phdschool@polimi.it](mailto:phdschool@polimi.it)>.

For further specific information on the Aerospace Engineering course, visit the following web site:

[www.dottorato.polimi.it/en/phd-programmes/engineering/aerospace-engineering](http://www.dottorato.polimi.it/en/phd-programmes/engineering/aerospace-engineering) or contact the Coordinator of the PhD course Prof. Pierangelo Masarati <[phd-daer@polimi.it](mailto:phd-daer@polimi.it)>.

