Master's degree in Space and Aeronautical Engineering

The master's degree in Space and Aeronautical Engineering is aimed at graduates in aerospace engineering or related physical sciences and engineering who wish to improve their skills and knowledge. It provides advanced training in the field of space systems and aeronautical engineering that is scientific, technical and practical in nature and will allow students to work towards a professional and/or research career in the aerospace industry. The master's degree is aimed graduates who will go on to seek employment in the aerospace industry or to pursue a research career in this field.

**GENERAL DETAILS**

**Duration and start date**
One academic year, 60 ECTS credits. Starting September

**Timetable and delivery**
Mornings and afternoons. Face-to-face

**Fees and grants**
Approximate fees for the master's degree, excluding degree certificate fee, €3,267 (€4,901 for non-EU residents).
More information about fees and payment options
More information about grants and loans

**Language of instruction**
English

**Location**
Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT)

**Official degree**
Recorded in the Ministry of Education's degree register

**ADMISSION**

**General requirements**
Academic requirements for admission to master's degrees

**Places**
20

**Pre-enrolment**
Pre-enrolment closed (consult the new pre-enrolment periods in the academic calendar).
How to pre-enrol

**Enrolment**
How to enrol

**Legalisation of foreign documents**
All documents issued in non-EU countries must be legalised and bear the corresponding apostille.

**PROFESSIONAL OPPORTUNITIES**

**Professional opportunities**
The master's degree allows students to plan their training and to focus their professional careers in the aerospace industry on areas such as space missions, space propulsion, aircraft propulsion, aircraft design, aircraft maintenance, fluid mechanics, materials research, airport infrastructure, air traffic management, wind energy, aerodynamics, civil engineering aerodynamics, automotive engineering and the design and civil applications of UAVs.
The training graduates receive will enable them to join R&D departments in the aerospace industry and related industries.

Competencies

Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

Specific competencies

- The ability to manage activities that involve projects and/or operations in which technology and organisation have interacted effectively and efficiently.
- The ability to plan, organise and control projects in the aerospace industry, especially innovation (R&D) and process improvement projects.
- The ability to develop and submit a research proposal according to the criteria of the international scientific community.
- The ability to analyse and synthesise cross-disciplinary aerospace knowledge applied to aeronautical projects.
- The ability to use knowledge of applied computational fluid mechanics appropriately in solving compressible aerodynamics problems.
- The ability to identify the laws of aerodynamics with regard to external flow and flight regimes and apply them in numerical and experimental aerodynamics.
- The ability to apply knowledge appropriately in processing large quantities of results of numerical calculations applied to analysis and design of aeroelasticity and aerodynamics.
- The ability to apply knowledge appropriately in the areas of advanced aerodynamics and aeroelasticity applied to analysis and design of aerospace structures.
- The ability to write a master's thesis and present and defend it to an examination committee.

ORGANISATION

UPC school
Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT)

Academic coordinator
Miquel Sureda Anfres

Academic calendar
General academic calendar for bachelor's, master's and doctoral degrees courses

Academic regulations
Academic regulations for master's degree courses at the UPC

CURRICULUM

January 2020. UPC. Universitat Politècnica de Catalunya - BarcelonaTech