Master in **AEROSPACE SCIENCE AND TECHNOLOGY (MAST)**

Advanced training in the sciences and technologies in the fields of aeronautics and space

Astrodynamics, avionics, CFD, control, GNSS, LSS, materials, microgravity, numerical methods, nanotechnologies, satellites, signal processing, systems engineering, UAV
Master in AEROSPACE SCIENCE AND TECHNOLOGY (MAST)

Presentation

MAST is an official international Master’s degree that provides advanced training in the sciences and technologies that are most used in the fields of aeronautics and space. It includes the study of theoretical and practical groundwork, techniques, methods and processes of current use in aerospace research.

MAST is organised by the Castelldefels School of Telecommunications and Aerospace Engineering in collaboration with the Universitat Autònoma de Barcelona, Centre National d’Études Spatiales, European Space Agency, and other national and international companies and research institutions.

Prospective students

MAST is addressed to University graduates in scientific disciplines (Physics, Chemistry, Mathematics, Geology) and engineering disciplines (Aeronautics, Industrial, Telecommunications, Mechanical).

Career prospects

Design, develop and manage aerospace projects.
Carry out advanced research in international aerospace R&D divisions in industry or academia.
Carry out a PhD Thesis in the aerospace field.

Content and programme structure:
Load of 90 ECTS (three semesters):

**FIRST SEMESTER - Compulsory Courses**
- 30 ECTS
- Aerospace Materials
- Aerospace Seminars
- Analog and Digital Signal Processing in Aerospace Applications
- Broadening of Fundamentals in Aerospace Science and Technology
- Numerical Methods for Aerospace Engineering Systems
- Space Systems Engineering

**SECOND SEMESTER - Elective Courses**
- 30 ECTS
- Astrodynamics
- Architecture of Nano and Picosatellites
- Aviation Weather
- Composite Materials for Aerospace Applications
- Computational Fluid Dynamics in Aerospace Engineering
- Digital Avionic Systems
- Integrated Electronic Systems for Aerospace Applications
- Life Support Systems in Space
- Modern Control Systems
- Nanotechnologies for Space Applications
- Radionavigation
- Satellite Communication Principles
- Science in Microgravity
- Test and Instrumentation Systems in Aerospace Applications
- Unmaned Aerial Vehicles

**THIRD SEMESTER**
- 30 ECTS
- Master Thesis