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Further information:
eseiaat.upc.edu
admissions.eseiaat@upc.edu

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The master's degree in Space and Aeronautical Engineering taught at the Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT) aims to fulfill part of this demand by producing competent young professionals who are prepared to start a successful career in different fields of aerospace. The School offers seminars, workshops, visits and individual and group research projects to reinforce theoretical learning.

Why this master?
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 at graduates who will go on to seek employment in the aerospace industry or to pursue a research career in this field.

Professional opportunities
This master’s degree allows students to guide their career towards companies in the aerospace industry and areas such as space missions, space and aircraft propulsion, aircraft design and maintenance, fluid mechanics, materials research, airport infrastructure, air traffic management, wind energy, aerodynamics, civil and automotive aerodynamics, and the design of civil applications of UAVs.

Work placements
The School has forums for establishing work placements and subsequent companies, which usually lead to work placements and subsequent careers. Master's degree students often manage to combine their studies with work placement agreements supervised by the University.

Master's thesis
All students are required to write and defend a master's thesis during the second semester. It can be carried out in the following research groups:
- Center for Structural Integrity
- Micromechanics and Reliability of Materials (CIFMA)
- Heat and Mass Transfer Technological Centre (CTTC)
- Acoustic and Mechanical Engineering Laboratory (LEAM)
- Laboratory for Aeronautical and Industrial Research and Studies (L’AIRE)
- Laboratory for Technological Innovation in Structures and Materials (LITEM)
- Motion Control and Industrial Applications Research Group (MCIA)
- Polymer and Composite Technology Research Group (POLYCOM)
- Advanced Control Systems (SAC)
- Thermodynamics and Physical Chemistry Group (TERFIQ)

Research
Students on the master's degree can come into contact with the research projects that are carried out at the School through its research groups or by carrying out an individual piece of research.

Group research aims to involve students in a participative environment that every engineer should have some experience of when they enter the labour market. Under the supervision of an H2020 expert, each group drafts a full H2020 proposal using all of the templates and the evaluation rules of the European Commission.

Individual research is meant for students who prefer to carry out a longer master’s thesis (21 ECTS credits). During individual research, they begin to engage in the subject, which allows them to lay the foundations for their master's thesis and gives them the chance to develop more complex ideas or adapt better to external companies' work placement demands.

Delivery and duration
The master's degree is taught face-to-face in English. It lasts one academic year beginning in September and is taught in the mornings and in the afternoons.

Curriculum

<table>
<thead>
<tr>
<th>1st semester</th>
<th>2nd semester</th>
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<tbody>
<tr>
<td>Computational Engineering</td>
<td>Research and Aerospace Project Management</td>
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<tr>
<td>Optional subjects</td>
<td>Optional Subjects</td>
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<tr>
<td>5</td>
<td>5</td>
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<td>25</td>
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<td>6</td>
<td>Master's Thesis</td>
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<tr>
<td>60 ECTS credits</td>
<td>14</td>
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<tr>
<th>Optional subjects (5 ECTS credits each)</th>
<th>Optional subjects (3 ECTS credits each)</th>
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<tr>
<td>Advanced Aerodynamics; Advanced Aerelasticity; Advanced Heat and Mass Transfer; Advanced Jet Engine; Advanced Propulsion; Advanced Rocket Engines; Aerospace Laboratories; Aircraft Architecture and Systems; Aircraft Building Systems; Aircraft Business Management; Aircraft Infrastructure Management; Aircraft Operations; Air Transport Management; Aerodynamics; Aerelasticity; Composite Materials; Hypersonic Aerodynamics; Internal Aerodynamics and Aerelasticity of Turbomachines; Numerical Methods in Heat and Mass Transfer; Space Propulsion; Space Structures; Design and Behaviour; Spacecraft Design; Project Management; Key Agreements and Deals; and Turbulence; Phenomenology; Simulation; Aerodynamics.</td>
<td>Acoustics; Advanced Design of the Movement Area; Advanced Space Propulsion; Application of GIS to the Built Environment; Design and Use of UAVs for Remote Sensing of the Environment; Game Theory; Geotechnical Engineering; Implementation and Testing of Mathematical Models for Optimisation Problems; Infrared Thermography for Building Diagnostics; Introduction to Mathematical Models for Optimisation Problems; Management and Operation of Terminal Buildings; Project Management: Key Agreements and Deals; Science and Technology Communication in the Media; Structure of New Generation Materials; and Thermal Turbomachines and Combustion.</td>
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Work placements
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Why this master?
The master's degree in Space and Aeronautical Engineering is taught at the Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT) aims to fulfill part of this demand by producing competent young professionals who are prepared to start a successful career in different fields of aerospace. The School offers seminars, workshops, visits and individual and group research projects to reinforce theoretical learning.
MASTER’S DEGREE IN SPACE AND AERONAUTICAL ENGINEERING

The Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT) has substantial experience and an outstanding reputation and is a benchmark in the fields of industrial, aerospace and audiovisual engineering. Its teaching model is based on the learning-by-doing method, in which students engage in real-world projects. The School, which stands out for its focus on innovation, has agreements with universities around the world and solid relationships with business partners. It offers a programme for high achievers and double degree programmes.

The Universitat Politècnica de Catalunya - BarcelonaTech (UPC) is a renowned public institution of research and higher education that is a benchmark in the fields of engineering, architecture, sciences and technology. With its 50 years of history, the UPC welcomes more than 30,000 students every year and hosts the largest concentration of technological research and innovation in southern Europe. It is the best Spanish university in Engineering and Technology, according to the 2020 QS World Universities Rankings by Subject.

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