

# Master's degree in Aerospace Engineering

The **master's degree in Aerospace Engineering** ([master's degree website](#)) aims to provide multidisciplinary training in science and technology based on a broad approach to aeronautical engineering.

## Specialisations

- Aerospace Vehicles
- Airports
- Propulsion
- Space
- Air Navigation (EETAC)

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## GENERAL DETAILS

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### Duration and start date

2 academic years, 120 ECTS credits. Starting September and February

### Timetable and delivery

Mornings and afternoons. Face-to-face

### Fees and grants

Approximate fees for the master's degree, **excluding other costs** (does not include non-teaching academic fees and issuing of the degree certificate):

€2,215 (€12,662 for non-EU residents).

[More information about fees and payment options](#)

[More information about grants and loans](#)

### Language of instruction

The first year is taught in Catalan; the second year in English.

Information on [language use in the classroom and students' language rights](#).

### Location

[Terrassa School of Industrial, Aerospace and Audiovisual Engineering \(ESEIAAT\)](#)

### Official degree

[Recorded in the Ministry of Education's degree register](#)

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## ADMISSION

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### General requirements

[Academic requirements for admission to master's degrees](#)

### Places

60 in September + 60 in February

### Pre-enrolment

Pre-enrolment period open.

Expected deadline: 01/07/2025.

[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](#).

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## PROFESSIONAL OPPORTUNITIES

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### Professional opportunities

The **master's degree in Aerospace Engineering** is a qualifying master's degree, that is, it qualifies holders to practise the regulated profession of aerospace engineer in Spain because it confers the specific competencies established in national legislation that are required for professional practice.

The activity of aerospace engineers spans the entire aerospace sector, both the production side (design, development and manufacture) of all kinds of aerospace vehicles, the various elements that they are composed of and their operation and maintenance, and the logistics side associated with their use and operation, including airport easements and air navigation and traffic (aerospace control, management and exploitation, which include machinery and software for aerospace support systems and their interrelation). Their activity may also take place in the framework of aerospace infrastructure, the focus of which is the design, construction, use and maintenance of the infrastructure that supports their activity. They are professionals who are capable of applying aerospace science and technology and developing new technologies. They are also fully qualified to certify aerospace vehicles, aerospace logistics systems and, in particular, airports and air navigation systems.

### 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.

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### UPC school

[Terrassa School of Industrial, Aerospace and Audiovisual Engineering \(ESEIAAT\)](#)

### Academic coordinator

[Adrià Rovira García](#)

### 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](#)

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## CURRICULUM

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| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>FIRST SEMESTER</b>                                |              |            |
| Lean Management and Aeronautical Maintenance         | 6            | Optional   |
| Aerodynamics, Flight Mechanics and Orbital Mechanics | 7.5          | Compulsory |
| Aerospace Materials                                  | 5            | Compulsory |
| Airport Engineering Fundamentals                     | 3            | Optional   |
| Design and Behavior of Special Structures            | 3            | Optional   |
| Design and Construction of Airports                  | 7.5          | Compulsory |
| Fundamentals of Aircraft Design                      | 3            | Optional   |
| Fundamentals of Propulsion                           | 3            | Optional   |

| Subjects  | ECTS credits | Type       |
|---|--------------|------------|
| Fundamentals of Space Engineering                         | 3            | Optional   |
| Geotechnical Engineering                                  | 3            | Optional   |
| Production and Design Aerospace                           | 5            | Compulsory |
| Project Management Key Agreements & Deals                 | 3            | Optional   |
| Propulsion II   | 3            | Optional   |
| Resistant Elements in Aeronautics                         | 3            | Optional   |
| Rockets Combustion and Propulsion                         | 5            | Compulsory |
| <b>Specialisation in (Eng) Especialitat Aeronavegació</b> |              |            |
| Lean Management and Aeronautical Maintenance              | 6            | Optional   |
| Aerodynamics, Flight Mechanics and Orbital Mechanics      | 7.5          | Compulsory |
| Aerospace Materials                                       | 5            | Compulsory |
| Airport Engineering Fundamentals                          | 3            | Optional   |
| Design and Behavior of Special Structures                 | 3            | Optional   |
| Design and Construction of Airports                       | 7.5          | Compulsory |
| Fundamentals of Aircraft Design                           | 3            | Optional   |
| Fundamentals of Propulsion                                | 3            | Optional   |
| Fundamentals of Space Engineering                         | 3            | Optional   |
| Geotechnical Engineering                                  | 3            | Optional   |
| Production and Design Aerospace                           | 5            | Compulsory |
| Project Management Key Agreements & Deals                 | 3            | Optional   |
| Propulsion II   | 3            | Optional   |
| Resistant Elements in Aeronautics                         | 3            | Optional   |
| Rockets Combustion and Propulsion                         | 5            | Compulsory |
| <b>Specialisation in (Eng) Especialitat Aeroports</b>     |              |            |
| Lean Management and Aeronautical Maintenance              | 6            | Optional   |
| Aerodynamics, Flight Mechanics and Orbital Mechanics      | 7.5          | Compulsory |
| Aerospace Materials                                       | 5            | Compulsory |
| Airport Engineering Fundamentals                          | 3            | Optional   |
| Design and Behavior of Special Structures                 | 3            | Optional   |
| Design and Construction of Airports                       | 7.5          | Compulsory |
| Fundamentals of Aircraft Design                           | 3            | Optional   |
| Fundamentals of Propulsion                                | 3            | Optional   |
| Fundamentals of Space Engineering                         | 3            | Optional   |
| Geotechnical Engineering                                  | 3            | Optional   |
| Production and Design Aerospace                           | 5            | Compulsory |
| Project Management Key Agreements & Deals                 | 3            | Optional   |
| Propulsion II   | 3            | Optional   |
| Resistant Elements in Aeronautics                         | 3            | Optional   |
| Rockets Combustion and Propulsion                         | 5            | Compulsory |
| <b>Specialisation in (Eng) Especialitat en Espai</b>      |              |            |
| Lean Management and Aeronautical Maintenance              | 6            | Optional   |
| Aerodynamics, Flight Mechanics and Orbital Mechanics      | 7.5          | Compulsory |
| Aerospace Materials                                       | 5            | Compulsory |
| Airport Engineering Fundamentals                          | 3            | Optional   |
| Design and Behavior of Special Structures                 | 3            | Optional   |
| Design and Construction of Airports                       | 7.5          | Compulsory |
| Fundamentals of Aircraft Design                           | 3            | Optional   |
| Fundamentals of Propulsion                                | 3            | Optional   |
| Fundamentals of Space Engineering                         | 3            | Optional   |
| Geotechnical Engineering                                  | 3            | Optional   |
| Production and Design Aerospace                           | 5            | Compulsory |
| Project Management Key Agreements & Deals                 | 3            | Optional   |
| Propulsion II   | 3            | Optional   |
| Resistant Elements in Aeronautics                         | 3            | Optional   |
| Rockets Combustion and Propulsion                         | 5            | Compulsory |
| <b>Specialisation in (Eng) Especialitat en Propulsió</b>  |              |            |
| Lean Management and Aeronautical Maintenance              | 6            | Optional   |
| Aerodynamics, Flight Mechanics and Orbital Mechanics      | 7.5          | Compulsory |
| Aerospace Materials                                       | 5            | Compulsory |
| Airport Engineering Fundamentals                          | 3            | Optional   |
| Design and Behavior of Special Structures                 | 3            | Optional   |
| Design and Construction of Airports                       | 7.5          | Compulsory |
| Fundamentals of Aircraft Design                           | 3            | Optional   |
| Fundamentals of Propulsion                                | 3            | Optional   |
| Fundamentals of Space Engineering                         | 3            | Optional   |
| Geotechnical Engineering                                  | 3            | Optional   |
| Production and Design Aerospace                           | 5            | Compulsory |
| Project Management Key Agreements & Deals                 | 3            | Optional   |
| Propulsion II   | 3            | Optional   |
| Resistant Elements in Aeronautics                         | 3            | Optional   |
| Rockets Combustion and Propulsion                         | 5            | Compulsory |

| Subjects   | ECTS credits   | Type           |
|--|--|----------------|
| <b>Specialisation in (Eng) Especialitat en Vehicles Aeroespacials</b>      | Lean Management and Aeronautical Maintenance         | 6 Optional     |
|  | Aerodynamics, Flight Mechanics and Orbital Mechanics | 7.5 Compulsory |
|  | Aerospace Materials                                  | 5 Compulsory   |
|  | Airport Engineering Fundamentals                     | 3 Optional     |
|  | Design and Behavior of Special Structures            | 3 Optional     |
|  | Design and Construction of Airports                  | 7.5 Compulsory |
|  | Fundamentals of Aircraft Design                      | 3 Optional     |
|  | Fundamentals of Propulsion                           | 3 Optional     |
|  | Fundamentals of Space Engineering                    | 3 Optional     |
|  | Geotechnical Engineering                             | 3 Optional     |
|  | Production and Design Aerospace                      | 5 Compulsory   |
|  | Project Management Key Agreements & Deals            | 3 Optional     |
|  | Propulsion II  | 3 Optional     |
|  | Resistant Elements in Aeronautics                    | 3 Optional     |
|  | Rockets Combustion and Propulsion                    | 5 Compulsory   |
| <b>Specialisation in (Eng) No Especialitat</b>                             | Lean Management and Aeronautical Maintenance         | 6 Optional     |
|  | Aerodynamics, Flight Mechanics and Orbital Mechanics | 7.5 Compulsory |
|  | Aerospace Materials                                  | 5 Compulsory   |
|  | Airport Engineering Fundamentals                     | 3 Optional     |
|  | Design and Behavior of Special Structures            | 3 Optional     |
|  | Design and Construction of Airports                  | 7.5 Compulsory |
|  | Fundamentals of Aircraft Design                      | 3 Optional     |
|  | Fundamentals of Propulsion                           | 3 Optional     |
|  | Fundamentals of Space Engineering                    | 3 Optional     |
|  | Geotechnical Engineering                             | 3 Optional     |
|  | Production and Design Aerospace                      | 5 Compulsory   |
|  | Project Management Key Agreements & Deals            | 3 Optional     |
|  | Propulsion II  | 3 Optional     |
|  | Resistant Elements in Aeronautics                    | 3 Optional     |
|  | Rockets Combustion and Propulsion                    | 5 Compulsory   |
| <b>SECOND SEMESTER</b>   |  |                |
| Advance Course Heat and Mass Transfer                                      | 5  | Optional       |
| Advanced Cubesat Mission Design  | 3  | Optional       |
| Advanced Design of the Movement Area                                       | 3  | Optional       |
| Advanced Engineering Data Analysis   | 3  | Optional       |
| Aerodynamic Shape Optimization   | 3  | Optional       |
| Aerospace Project Management   | 5  | Compulsory     |
| Aerospace Vehicles   | 7.5  | Compulsory     |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3  | Optional       |
| Air Transport and Navigation Systems                                       | 7.5  | Compulsory     |
| Air Transport Economics  | 5  | Optional       |
| Aircraft Propulsion Systems  | 5  | Compulsory     |
| Applications of Photonics Technologies                                     | 3  | Optional       |
| Atmospheric Physics  | 5  | Optional       |
| Aviation and Environment   | 5  | Optional       |
| Aviation Safety Management   | 5  | Optional       |
| Biomedical Instrumentation   | 3  | Optional       |
| Business Law   | 3  | Optional       |
| Colloids, Interfaces and Nanoscale Engineering                             | 3  | Optional       |
| Computational Modeling for Engineering Processes                           | 3  | Optional       |
| Cubesat Based Mission Design and Testing                                   | 6  | Optional       |
| Cyber-Physical Systems Scheduling  | 3  | Optional       |
| Data Mining and Machine Learning for Engineers                             | 3  | Optional       |
| Demolitions and Soil Preparation   | 3  | Optional       |
| Designing Innovative Products and Business                                 | 3  | Optional       |
| Dynamic Analysis of Structures   | 3  | Optional       |
| Dynamical Systems in Engineering   | 3  | Optional       |
| Experimental Mechanics of Advanced Materials and Structures                | 3  | Optional       |
| Facilities Management  | 3  | Optional       |
| Fundamentals of Hypersonic Aerodynamics                                    | 3  | Optional       |
| Fundamentals of Industrial Wireless Communication                          | 3  | Optional       |
| Global Navigation Satellite System   | 3  | Optional       |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5  | Optional       |
| High Performance Computing Projects for Aerospace Engineering              | 3  | Optional       |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3  | Optional       |
| Industrial Fluid Power   | 3  | Optional       |
| Industrial Iot and Cyber-Physical Systems                                  | 3  | Optional       |
| Industrial Wireless Communication Systems                                  | 3  | Optional       |
| Infrared Thermography for Building Diagnostics                             | 3  | Optional       |
| Interplanetary Trajectory Design and Optimisation                          | 3  | Optional       |
| Introduction to Active Flow Control  | 3  | Optional       |
| Introduction to Metaheuristics for Optimization Problems                   | 3  | Optional       |

| <b>Subjects</b>   | <b>ECTS credits</b> | <b>Type</b> |
|---|---------------------|-------------|
| Introduction to Planetary Atmospheres                         | 3                   | Optional    |
| IoT Engineering   | 3                   | Optional    |
| Launch Vehicles and Trajectory Optimization                   | 3                   | Optional    |
| Management and Operation of Terminal Buildings                | 3                   | Optional    |
| Microfluids and MEMS for Smart Sensors and Actuators          | 3                   | Optional    |
| Mobile Robots   | 3                   | Optional    |
| Nonlinear Time Series Analysis                                | 3                   | Optional    |
| Numerical Methods in Heat and Mass Transfer                   | 5                   | Optional    |
| Photonics Sensors and Laser Technology                        | 3                   | Optional    |
| Polymers from Renewable Resources for Industrial Applications | 3                   | Optional    |
| Practical Use of FEM for Structural Analysis with Nastran     | 3                   | Optional    |
| Programming Interfaces and Applications                       | 3                   | Optional    |
| Proportional Oil Hydraulics                                   | 3                   | Optional    |
| Radiofrequency and Communication Systems                      | 5                   | Compulsory  |
| Relationship with the Company                                 | 3                   | Optional    |
| Research on Fluid Mechanics                                   | 3                   | Optional    |
| Safety Automation Projects for Industry 4.0                   | 3                   | Optional    |
| Smart Grids & Data Analytics                                  | 3                   | Optional    |
| Smart Sensors and Actuators for Internet of Things (IoT)      | 3                   | Optional    |
| Smart Textiles  | 3                   | Optional    |
| Space Resources & Planetary Settlements                       | 3                   | Optional    |
| Spaceports, Airports for Spaceflights                         | 3                   | Optional    |
| The Space Environment   | 3                   | Optional    |
| Turbulence: Phenomenology, Simulation, Aerodynamics           | 5                   | Optional    |
| Unmanned Aerial Vehicles                                      | 5                   | Optional    |
| Validating and Communicating Disruptive Ideas                 | 6                   | Optional    |
| Workshops for Innovation in Automotive Industries             | 6                   | Optional    |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>Specialisation in (Eng) Especialitat Aeronavegació</b>                  |              |            |
| Advanced Concepts and Models for ATM                                       | 5            | Compulsory |
| Aircraft Trajectory Management   | 5            | Compulsory |
| Machine Learning From Data   | 5            | Compulsory |
| Software Architecture  | 5            | Compulsory |
| Strategic Management for Airline Operations                                | 5            | Compulsory |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>Specialisation in (Eng) No Especialitat</b>                             |              |            |
| Advanced Concepts and Models for ATM                                       | 5            | Optional   |
| Aircraft Trajectory Management   | 5            | Optional   |
| Machine Learning From Data   | 5            | Optional   |
| Software Architecture  | 5            | Optional   |
| Strategic Management for Airline Operations                                | 5            | Optional   |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>Specialisation in (Eng) Especialitat Aeroports</b>                      |              |            |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| Specialisation in (Eng) Especialitat en Espai                              |              |            |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>Specialisation in (Eng) Especialitat en Propulsió</b>                   |              |            |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |

| Subjects   | ECTS credits | Type       |
|--|--------------|------------|
| <b>Specialisation in (Eng) Especialitat en Vehicles Aeroespacials</b>      |              |            |
| Advance Course Heat and Mass Transfer                                      | 5            | Optional   |
| Advanced Cubesat Mission Design  | 3            | Optional   |
| Advanced Design of the Movement Area                                       | 3            | Optional   |
| Advanced Engineering Data Analysis   | 3            | Optional   |
| Aerodynamic Shape Optimization   | 3            | Optional   |
| Aerospace Project Management   | 5            | Compulsory |
| Aerospace Vehicles   | 7.5          | Compulsory |
| Agile Methodologies and Processes for the Creation of Innovative Solutions | 3            | Optional   |
| Air Transport and Navigation Systems                                       | 7.5          | Compulsory |
| Air Transport Economics  | 5            | Optional   |
| Aircraft Propulsion Systems  | 5            | Compulsory |
| Applications of Photonics Technologies                                     | 3            | Optional   |
| Atmospheric Physics  | 5            | Optional   |
| Aviation and Environment   | 5            | Optional   |
| Aviation Safety Management   | 5            | Optional   |
| Biomedical Instrumentation   | 3            | Optional   |
| Business Law   | 3            | Optional   |
| Colloids, Interfaces and Nanoscale Engineering                             | 3            | Optional   |
| Computational Modeling for Engineering Processes                           | 3            | Optional   |
| Cubesat Based Mission Design and Testing                                   | 6            | Optional   |
| Cyber-Physical Systems Scheduling  | 3            | Optional   |
| Data Mining and Machine Learning for Engineers                             | 3            | Optional   |
| Demolitions and Soil Preparation   | 3            | Optional   |
| Designing Innovative Products and Business                                 | 3            | Optional   |
| Dynamic Analysis of Structures   | 3            | Optional   |
| Dynamical Systems in Engineering   | 3            | Optional   |
| Experimental Mechanics of Advanced Materials and Structures                | 3            | Optional   |
| Facilities Management  | 3            | Optional   |
| Fundamentals of Hypersonic Aerodynamics                                    | 3            | Optional   |
| Fundamentals of Industrial Wireless Communication                          | 3            | Optional   |
| Global Navigation Satellite System   | 3            | Optional   |
| Global Navigation Satellite Systems (Gnss) Data Processing                 | 5            | Optional   |
| High Performance Computing Projects for Aerospace Engineering              | 3            | Optional   |
| Implementation and Testing of Metaheuristics for Optimization Problems     | 3            | Optional   |
| Industrial Fluid Power   | 3            | Optional   |
| Industrial Iot and Cyber-Physical Systems                                  | 3            | Optional   |
| Industrial Wireless Communication Systems                                  | 3            | Optional   |
| Infrared Thermography for Building Diagnostics                             | 3            | Optional   |
| Interplanetary Trajectory Design and Optimisation                          | 3            | Optional   |
| Introduction to Active Flow Control  | 3            | Optional   |
| Introduction to Metaheuristics for Optimization Problems                   | 3            | Optional   |
| Introduction to Planetary Atmospheres                                      | 3            | Optional   |
| Iot Engineering  | 3            | Optional   |
| Launch Vehicles and Trajectory Optimization                                | 3            | Optional   |
| Management and Operation of Terminal Buildings                             | 3            | Optional   |
| Microfluids and Mems for Smarts Sensors and Actuators                      | 3            | Optional   |
| Mobile Robots  | 3            | Optional   |
| Nonlinear Time Series Analysis   | 3            | Optional   |
| Numerical Methods in Heat and Mass Transfer                                | 5            | Optional   |
| Photonics Sensors and Laser Technology                                     | 3            | Optional   |
| Polymers from Renewable Resources for Industrial Applications              | 3            | Optional   |
| Practical Use of Fem for Structural Analysis with Nastran                  | 3            | Optional   |
| Programming Interfaces and Applications                                    | 3            | Optional   |
| Proportional Oil Hydraulics  | 3            | Optional   |
| Radiofrequency and Communication Systems                                   | 5            | Compulsory |
| Relationship with the Company  | 3            | Optional   |
| Research on Fluid Mechanics  | 3            | Optional   |
| Safety Automation Projects for Industry 4.0                                | 3            | Optional   |
| Smart Grids & Data Analytics   | 3            | Optional   |
| Smart Sensors and Actuators for Internet of Things (Iot)                   | 3            | Optional   |
| Smart Textiles   | 3            | Optional   |
| Space Resources & Planetary Settlements                                    | 3            | Optional   |
| Spaceports, Airports for Spaceflights                                      | 3            | Optional   |
| The Space Environment  | 3            | Optional   |
| Turbulence: Phenomenology, Simulation, Aerodynamics                        | 5            | Optional   |
| Unmanned Aerial Vehicles   | 5            | Optional   |
| Validating and Communicating Disruptive Ideas                              | 6            | Optional   |
| Workshops for Innovation in Automotive Industries                          | 6            | Optional   |
| <b>THIRD SEMESTER</b>  |              |            |
| Acoustics  | 3            | Optional   |
| Advanced Astrodynamics   | 5            | Optional   |
| Applications for Planetary Exploration                                     | 3            | Optional   |

| Subjects  | ECTS credits | Type       |
|---|--------------|------------|
| Applied Robotics  | 3            | Optional   |
| Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
| Computational Engineering   | 5            | Compulsory |
| Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
| Extension of Space Propulsion   | 3            | Optional   |
| Fundamentals of Nuclear Engineering   | 3            | Optional   |
| Game Theory   | 3            | Optional   |
| Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
| Quality Management  | 3            | Optional   |
| Railway Systems   | 3            | Optional   |
| Research Seminars   | 3            | Optional   |
| Science and Technology Communication Through Media                            | 3            | Optional   |
| Structures of New Generation Materials  | 3            | Optional   |
| Surface Engineering   | 3            | Optional   |
| Textiles for the Future   | 3            | Optional   |
| Thermal Turbomachinery and Combustion   | 3            | Optional   |
| <b>Specialisation in (Eng) Especialitat Aeroports</b>                         |              |            |
| Air Transport   | 5            | Compulsory |
| Airport Building Systems  | 5            | Compulsory |
| Airport Infrastructure Management   | 5            | Compulsory |
| Airport Operations  | 5            | Compulsory |
| Business Management Aeronautics   | 5            | Compulsory |
| Acoustics   | 3            | Optional   |
| Advanced Astrodynamics  | 5            | Optional   |
| Applications for Planetary Exploration  | 3            | Optional   |
| Applied Robotics  | 3            | Optional   |
| Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
| Computational Engineering   | 5            | Compulsory |
| Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
| Extension of Space Propulsion   | 3            | Optional   |
| Fundamentals of Nuclear Engineering   | 3            | Optional   |
| Game Theory   | 3            | Optional   |
| Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
| Quality Management  | 3            | Optional   |
| Railway Systems   | 3            | Optional   |
| Research Seminars   | 3            | Optional   |
| Science and Technology Communication Through Media                            | 3            | Optional   |
| Structures of New Generation Materials  | 3            | Optional   |
| Surface Engineering   | 3            | Optional   |
| Textiles for the Future   | 3            | Optional   |
| Thermal Turbomachinery and Combustion   | 3            | Optional   |
| <b>Specialisation in (Eng) Especialitat en Espai</b>                          |              |            |
| Applied Subsystem Design  | 5            | Compulsory |
| Astrodynamics   | 5            | Compulsory |
| Composite Materials   | 5            | Compulsory |
| Hypersonic Aerodynamics   | 5            | Optional   |
| Space Propulsion  | 5            | Compulsory |
| Spacecraft Design   | 5            | Compulsory |
| Acoustics   | 3            | Optional   |
| Advanced Astrodynamics  | 5            | Optional   |
| Applications for Planetary Exploration  | 3            | Optional   |
| Applied Robotics  | 3            | Optional   |
| Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
| Computational Engineering   | 5            | Compulsory |
| Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
| Extension of Space Propulsion   | 3            | Optional   |
| Fundamentals of Nuclear Engineering   | 3            | Optional   |
| Game Theory   | 3            | Optional   |
| Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
| Quality Management  | 3            | Optional   |
| Railway Systems   | 3            | Optional   |
| Research Seminars   | 3            | Optional   |
| Science and Technology Communication Through Media                            | 3            | Optional   |
| Structures of New Generation Materials  | 3            | Optional   |
| Surface Engineering   | 3            | Optional   |
| Textiles for the Future   | 3            | Optional   |
| Thermal Turbomachinery and Combustion   | 3            | Optional   |

| Subjects  |   | ECTS credits | Type       |
|---|---|--------------|------------|
| <b>Specialisation in (Eng) Especialitat en Propulsió</b>              | Advanced Propulsion   | 5            | Compulsory |
|   | Composite Materials   | 5            | Compulsory |
|   | Extension of Jet Engines  | 5            | Compulsory |
|   | Extension of Rocket Engines   | 5            | Compulsory |
|   | Internal Aerodynamics and Aeroelasticity of Turbomachines                     | 5            | Compulsory |
|   | Acoustics   | 3            | Optional   |
|   | Advanced Astrodynamics  | 5            | Optional   |
|   | Applications for Planetary Exploration  | 3            | Optional   |
|   | Applied Robotics  | 3            | Optional   |
|   | Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
|   | Computational Engineering   | 5            | Compulsory |
|   | Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
|   | Extension of Space Propulsion   | 3            | Optional   |
|   | Fundamentals of Nuclear Engineering   | 3            | Optional   |
|   | Game Theory   | 3            | Optional   |
|   | Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
|   | Quality Management  | 3            | Optional   |
|   | Railway Systems   | 3            | Optional   |
|   | Research Seminars   | 3            | Optional   |
|   | Science and Technology Communication Through Media                            | 3            | Optional   |
|   | Structures of New Generation Materials  | 3            | Optional   |
|   | Surface Engineering   | 3            | Optional   |
|   | Textiles for the Future   | 3            | Optional   |
| Thermal Turbomachinery and Combustion                                 | 3   | Optional     |            |
| <b>Specialisation in (Eng) Especialitat en Vehicles Aeroespacials</b> | Advanced Aerodynamics   | 5            | Compulsory |
|   | Advanced Aeroelasticity   | 5            | Compulsory |
|   | Aerospace Laboratories  | 5            | Compulsory |
|   | Architecture and Aircraft Systems   | 5            | Compulsory |
|   | Composite Materials   | 5            | Compulsory |
|   | Acoustics   | 3            | Optional   |
|   | Advanced Astrodynamics  | 5            | Optional   |
|   | Applications for Planetary Exploration  | 3            | Optional   |
|   | Applied Robotics  | 3            | Optional   |
|   | Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
|   | Computational Engineering   | 5            | Compulsory |
|   | Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
|   | Extension of Space Propulsion   | 3            | Optional   |
|   | Fundamentals of Nuclear Engineering   | 3            | Optional   |
|   | Game Theory   | 3            | Optional   |
|   | Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
|   | Quality Management  | 3            | Optional   |
|   | Railway Systems   | 3            | Optional   |
|   | Research Seminars   | 3            | Optional   |
|   | Science and Technology Communication Through Media                            | 3            | Optional   |
|   | Structures of New Generation Materials  | 3            | Optional   |
|   | Surface Engineering   | 3            | Optional   |
|   | Textiles for the Future   | 3            | Optional   |
| Thermal Turbomachinery and Combustion                                 | 3   | Optional     |            |

| Subjects  |   | ECTS credits | Type       |
|---|---|--------------|------------|
| <b>Specialisation in (Eng) No Especialitat</b>                        | Advanced Aerodynamics   | 5            | Optional   |
|   | Advanced Aeroelasticity   | 5            | Optional   |
|   | Advanced Propulsion   | 5            | Optional   |
|   | Aerospace Laboratories  | 5            | Optional   |
|   | Air Transport   | 5            | Optional   |
|   | Airport Building Systems  | 5            | Optional   |
|   | Airport Infrastructure Management   | 5            | Optional   |
|   | Airport Operations  | 5            | Optional   |
|   | Applied Subsystem Design  | 5            | Optional   |
|   | Architecture and Aircraft Systems   | 5            | Optional   |
|   | Astrodynamics   | 5            | Optional   |
|   | Business Management Aeronautics   | 5            | Optional   |
|   | Composite Materials   | 5            | Optional   |
|   | Extension of Jet Engines  | 5            | Optional   |
|   | Extension of Rocket Engines   | 5            | Optional   |
|   | Internal Aerodynamics and Aeroelasticity of Turbomachines                     | 5            | Optional   |
|   | Space Propulsion  | 5            | Optional   |
|   | Spacecraft Design   | 5            | Optional   |
|   | Acoustics   | 3            | Optional   |
|   | Advanced Astrodynamics  | 5            | Optional   |
|   | Applications for Planetary Exploration  | 3            | Optional   |
|   | Applied Robotics  | 3            | Optional   |
|   | Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
|   | Computational Engineering   | 5            | Compulsory |
|   | Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
|   | Extension of Space Propulsion   | 3            | Optional   |
|   | Fundamentals of Nuclear Engineering   | 3            | Optional   |
|   | Game Theory   | 3            | Optional   |
|   | Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
|   | Quality Management  | 3            | Optional   |
|   | Railway Systems   | 3            | Optional   |
|   | Research Seminars   | 3            | Optional   |
|   | Science and Technology Communication Through Media                            | 3            | Optional   |
| Structures of New Generation Materials                                | 3   | Optional     |            |
| Surface Engineering   | 3   | Optional     |            |
| Textiles for the Future   | 3   | Optional     |            |
| Thermal Turbomachinery and Combustion                                 | 3   | Optional     |            |
| <b>Specialisation in (Eng) Especialitat Aeronavegació</b>             | Acoustics   | 3            | Optional   |
|   | Advanced Astrodynamics  | 5            | Optional   |
|   | Applications for Planetary Exploration  | 3            | Optional   |
|   | Applied Robotics  | 3            | Optional   |
|   | Composite Materials Manufacturing: Design and Manufacture Your Own Components | 3            | Optional   |
|   | Computational Engineering   | 5            | Compulsory |
|   | Design and Use of Uav for Remote Sensing of the Environment                   | 3            | Optional   |
|   | Extension of Space Propulsion   | 3            | Optional   |
|   | Fundamentals of Nuclear Engineering   | 3            | Optional   |
|   | Game Theory   | 3            | Optional   |
|   | Generative Ai for Engineers: a Hands-On Approach                              | 3            | Optional   |
|   | Quality Management  | 3            | Optional   |
|   | Railway Systems   | 3            | Optional   |
|   | Research Seminars   | 3            | Optional   |
|   | Science and Technology Communication Through Media                            | 3            | Optional   |
|   | Structures of New Generation Materials  | 3            | Optional   |
|   | Surface Engineering   | 3            | Optional   |
| Textiles for the Future   | 3   | Optional     |            |
| Thermal Turbomachinery and Combustion                                 | 3   | Optional     |            |
| <b>FOURTH SEMESTER</b>  |   |              |            |
| Master's Thesis   |   | 12           | Project    |
| <b>Specialisation in (Eng) Especialitat Aeronavegació</b>             | Master's Thesis   | 12           | Project    |
| <b>Specialisation in (Eng) Especialitat Aeroports</b>                 | Master's Thesis   | 12           | Project    |
| <b>Specialisation in (Eng) Especialitat en Espai</b>                  | Master's Thesis   | 12           | Project    |
| <b>Specialisation in (Eng) Especialitat en Propulsió</b>              | Master's Thesis   | 12           | Project    |
| <b>Specialisation in (Eng) Especialitat en Vehicles Aeroespacials</b> | Master's Thesis   | 12           | Project    |
| <b>Specialisation in (Eng) No Especialitat</b>                        | Master's Thesis   | 12           | Project    |