

# Master's Degree\*\*

2-year programme Applicants must hold a Bachelor's degree or equivalent\*



## AERONAUTICS & SPACE

### Aerospace Engineering (MAE) By ISAE-SUPAERO

#### Objectives

- Build strong scientific and technical expertise across the core disciplines of aerospace engineering to prepare students for high-level industry roles.
- Develop an interdisciplinary mindset for designing, analysing, and delivering complex aerospace systems and products.
- Strengthen teamwork, communication, and adaptability to thrive in innovative, multicultural engineering environments.

#### Contents

- A solid multidisciplinary grounding in engineering, complemented by project management and language training.
- Seven advanced fields spanning Advanced Aerodynamics & Propulsion, Space Systems, Satellite Applications & NewSpace, Embedded Systems, Systems & Control, Aerospace Structures, and Systems Engineering.

#### Career Opportunities

Pursue advanced roles in aerospace and space engineering: aircraft and spacecraft design, aerodynamics, propulsion, flight performance, systems engineering and integration, flight testing and certification, embedded systems and avionics, space systems, satellite applications, and NewSpace activities.

Contribute to research and development within leading aerospace organisations or engage in innovation-driven projects across the global sector.

Advance towards doctoral studies at top universities and research centres, supported by strong technical expertise, an international outlook, and professional readiness.

## Aerospace System Navigation and Telecommunication (AS-NAT) By ENAC

#### Objectives

- Provide students with advanced skills and knowledge in GNSS and its related applications to prepare them for GNSS-dependent industry.
- Offer complementary training in telecommunications to strengthen expertise in both fields.
- Enable graduates to participate in industrial projects related to aeronautical telecommunication and geolocalization, or to pursue further research such as a PhD.

#### Contents

- Fundamentals of mathematics, signal processing and electromagnetics, GNSS, language and human sciences, telecommunications.

#### Career Opportunities

This Master's degree in GNSS provides students with a head start in the evolving and growing market of satellite-based navigation and telecommunications. Graduates can work in large companies, SMEs, national institutions, research laboratories.

## AIR TRANSPORT

### International Air Transport System Engineering and Design (IATSED) By ENAC

#### Objectives

- Acquire strong knowledge of current trends in Air Transport Systems (ATS).
- Learn in-depth software programming relevant to ATS.
- Gain training in fundamental systems engineering and hands-on experience managing complex, multidisciplinary engineering projects, aligned with international INCOSE standards.

#### Contents

- Engineering, software, air transport, project.

#### Career Opportunities

Main recruitment areas are: aircraft manufacturers, ANSP (Air Navigation Services Providers) Civil Aviation Authorities, Prime contractors, Consulting companies. By graduation you can be recruited as a technical systems engineer, technical project manager, software designer and developer, data scientist.

### International Air Transport Operations Management (IATOM) By ENAC

#### Objectives

- Provide technical and management expertise for future managers in international aeronautical companies.
- Deliver in-depth knowledge in aeronautical engineering, project management, IT tools, and aircraft operations/environment.
- Prepare graduates to meet industry demands by offering specialization options in either certification, airworthiness, and safety or economics, strategy, and aircraft environment.

#### Contents

- Theoretical flight fundamentals, aircraft fundamentals, mathematics tools, aircraft design and operations, aircraft airworthiness, aircraft environment, minor in strategy or in airworthiness.

#### Career Opportunities

The four main sectors of recruitment are Aircraft manufacturers, Civil Aviation Authorities, Airlines, Airports. By graduation you can work at junior management position as flight operations engineer, aircraft performance engineer, airport consultant, maintenance manager, continued airworthiness manager, revenue management engineer, marketing manager...

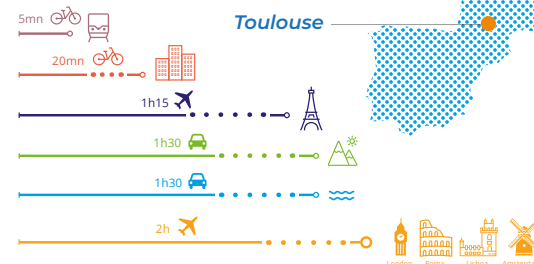
\* depending on programmes and candidates backgrounds  
\*\* Diplôme National de Master (DNM)



## Live your Best Experience in Toulouse

### 2 OUTSTANDING CAMPUSES

**Toulouse**  
European Capital of Aeronautics and Space.  
Top 3 most attractive cities to study in France.



### ONLINE APPLICATION DOCUMENTS

- Curriculum vitae
- Motivation letter
- Copy of the highest diploma or certificate of enrollment
- Transcript for the last 2 or 3 years of studies
- 2 letters of recommendation
- Valid English certification with minimum score:
  - TOEFL iBT (87)
  - TOEIC Listening & Reading (850)
  - TOEIC Listening, Speaking, Reading & Writing (785)
  - IELTS Academic (6)
  - CAE/FCE Cambridge (170)
  - Linguaskill (170)

All applicants must provide an English language certificate, including those who have completed their studies in English. Candidates of Australian, Canadian, Irish, New Zealand, South African, British and American nationalities are exempted.

- Application fees: 100€

### An exceptional environment in the heart of Toulouse

- State-of-the-art teaching and research facilities
- A full range of sports facilities: swimming pool, gymnasium, climbing wall, fitness centre, football and rugby fields, tennis courts, squash courts, etc.
- Student accommodation, lively Student centres, on-site canteens and comprehensive medical services

### SELECTION AND ADMISSION

#### From October to July

Check the calendar on the website - In order to secure you seat in the programme, apply at the 1<sup>st</sup> sessions of admission.

### YOUR CONTACTS

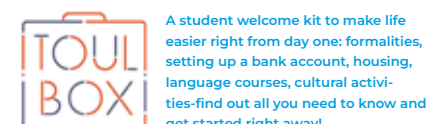
e-mail: [info-programmes@tsaae.fr](mailto:info-programmes@tsaae.fr)

- For ENAC's programmes: (+33)(0)5 62 17 43 73
- For ISAE-SUPAERO Advanced Masters: (+33)(0)5 61 33 80 25
- For ISAE-SUPAERO Master's degree: (+33)(0)5 61 33 80 55

ONLINE APPLICATIONS:  
<https://candidatures.tsaae.fr>



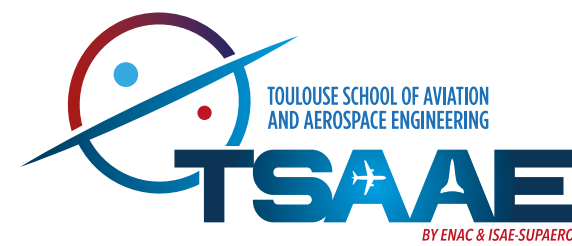
FURTHER DETAILS:  
<https://www.tsaae.fr>



Our campuses are accessible to individuals with disabilities.



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TOULOUSE SCHOOL OF AVIATION AND AEROSPACE ENGINEERING



## TSAAE, a World Leader in Aviation & Aerospace Engineering Higher Education

In Toulouse, we unite top talent, cutting-edge-expertise, and bold innovation to drive the future of air transportation and civil & military aerospace engineering.



by



## A Unique Portfolio of World-class Programmes powered by two Leading Engineering Schools in Toulouse

Creation: July 2025  
Founders: French public establishments ISAE-SUPAERO (1909) and ENAC (1949)

### Main Objectives:

- To offer a world-class, globally recognised academic portfolio, aligned with industry needs, empowering tomorrow's experts and innovators.

600+ students  
+ 60% international students

- To build a joint research laboratory that fosters scientific knowledge and amplifies the reach and relevance of research designed to meet the sector's most critical challenges.

4 research teams  
280 faculty members  
330 PhD students

- To strengthen innovation and entrepreneurship support systems through a joint incubator, fostering project development and high-impact startup creation.

## Why Choose TSAAE for your Studies in Aviation & Aerospace Engineering?

### International experience

Immerse yourself in an international experience in Toulouse, the European aerospace capital, alongside students, professors, and industry experts from around the globe.

### Professional and Alumni Network

Tap into the ISAE-SUPAERO & ENAC alumni network of 60,000 graduates worldwide and leverage our strong partnerships with leading aerospace companies and civil aviation authorities.

### Exciting Career Prospects

Take on high-level responsibilities in the industry with the support of our Career Center. Our dedicated team plays a crucial role in helping students leverage their skills and prepare for a successful career. From workshops to prepare your interviews to recruitment forums, we provide comprehensive resources to set you up for success.

### Expertise

Learn from leading professionals and academics to refine your skills in aviation, aeronautics, space, innovation, project management, complex systems, AI, and digital technologies.

### Innovation

Broaden your expertise in cutting-edge technology and innovation, central to the core of TSAAE's courses.

### Research

Take advantage of our joint research laboratory, with departments covering a wide range of multi-disciplinary topics in aviation and aerospace engineering.

### visit our websites



### Main Recruiters



ENAC, 7 avenue Edouard Belin - 31055 Toulouse Cedex 4 - France - ISAE-SUPAERO, 10, avenue Marc Pelegrin - BP 54032 31055 Toulouse Cedex 4 - France  
Email: [info-programmes@tsaae.fr](mailto:info-programmes@tsaae.fr) - Website: [www.tsaae.fr](http://www.tsaae.fr)

# Advanced Masters \*\*\*



**1-year programme** Applicants must hold either a Master's degree or a Bachelor's degree with at least 3 years of professional experience or equivalent \*

## AVIATION & AERONAUTICAL ENGINEERING

### Airport Management (AM) By ENAC

#### Objectives

- **Prepare** future airport management professionals to tackle the challenges of the aviation sector.
- **Play** a key role in day-to-day airport operations, managing complex situations.
- **Take** on challenges such as business development, operational optimisation, and partnerships with airlines.
- **Empower** future leaders to thrive in a dynamic and evolving environment.

#### Contents

- Aircraft and air transport system, airport master plan and design, airport operations management, airport business management.

#### Career Opportunities

Positions for middle-management and top-management roles in: airport operation companies (running regional or international airports worldwide...), airport-oriented consultants and engineering firms (civil engineering, architects and consultants in PPP, finance, airport-oriented service providers: IT and systems, ground handling, special equipment, aviation representatives (airlines, business aviation companies) and institutions, civil aviation authorities in their respective countries.

### Safety Management in Aviation (SMA)<sup>(1)</sup> By ENAC

#### Objectives

- **Develop** a safety management strategy tailored to the challenges of air transport.
- **Manage** safety risks effectively within the air transport system.
- **Drive** performance improvements to enhance overall air transport system safety.
- **Lead** safety improvement projects to ensure continuous progress in air transport safety.

#### Contents

- Context, safety culture, cross-domain methods, safety management by domain, safety at state level, safety synthesis.

#### Career Opportunities

The programme is designed for current or future Safety Managers in charge of the development, deployment, or improvement of Safety in organizations of the Air Transport System. In Civil Aviation Authorities: Safety Officer or Manager, Safety Performance Manager, Safety Audit Responsible, SSP (State Safety Programme) Manager. In industry and operators: Safety Director or Manager, SMS (Safety Management System) Manager, Safety Risks Manager, Safety Analysis Manager.

### Sustainable Aviation (SA)

By ISAE-SUPAERO & ENAC



#### Objectives

- **Assess** the environmental impacts (climate, resources, biodiversity) of aviation products and services.
- **Design** technical solutions and robust business models to improve the sustainability of a product or a service.
- **Develop** a multidisciplinary and systemic overview, adapted to a complex environment.
- **Plan** policy-relevant strategies and lead the implementation of innovative solutions within the organizations.

#### Contents

- Aviation and its interactions with the environment (climate, resources such as energy, metals, etc.), complex and multi-disciplinary systems, eco-design of products and services, low-carbon energy carriers (including sustainable aviation fuels and hydrogen), certification of innovations and digital technologies.

#### Career Opportunities

Cover the entire aviation and aerospace sector (engineering, operations, maintenance, air traffic management, and sustainability). Graduates work for airlines, airports, manufacturers, service providers, consulting firms, and regulatory authorities. Roles range from engineering and project management to operational leadership, focused on sustainable aviation.

### Air Transport Management (MTA) By ENAC

In Partnership with TBS Education

#### Objectives

- **Provide** a systematic approach to air transport by analyzing economic, operational, marketing, and financial aspects.
- **Train** high-level specialists capable of addressing the strategic needs of the aviation sector.
- **Develop** a strategic vision and management skills to drive change in a rapidly evolving environment.
- **Understand** global competition, complex financial challenges, and security and safety issues in the air transport sector.
- **Prepare** for a career in a dynamic sector, including airlines and airport infrastructures.

#### Contents

- Air transport system, air transport economics and management, air transport operations, air transport business.

#### Career Opportunities

Positions as: market studies officer, management controller, operational research engineer, line manager, consultant.

### Aeronautical Maintenance and Support Engineering & Management (AMS-EM)

By ISAE-SUPAERO

#### Objectives

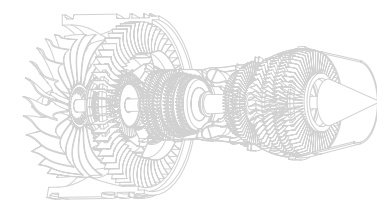
- **To prepare** participants to face the competitive and fast changing MRO business within the international regulatory framework.
- **To expose** participants to the latest techniques and methods, regulation and standards applied in the aviation industry.
- **To help** participants acquire a wide range of knowledge from engineering fundamentals to maintenance organization management.

#### Contents

- Aircraft general familiarization- Maintenance and Support in Aircraft Design - Maintenance & health management analysis & modelling maintenance execution & management- airworthiness, safety and human factors - Support & services.

#### Career Opportunities

Management position in aircraft manufacturers, airlines, and MRO organizations in civil or military sectors.



## AEROSPACE ENGINEERING

### Space Systems Engineering (TAS ASTRO)

By ISAE-SUPAERO

#### Objectives

- **Provide** high level inter-disciplinary training in space science, space systems engineering and space project management.
- **Acquire** and develop technical skills specific to space systems design.
- **Understand** the international, economic and legal aspects of space programs.

#### Contents

- Missions & systems - Space programs - sub-systems: satellites & launchers - SEEDS optional pathway (space exploration).

#### Career Opportunities

Research and design engineers in space industry, agencies or laboratories, leading to system or management position of various space applications programs (Earth Observation, Telecommunications, Navigation, Science, Human Spaceflight...).

### Aviation Safety : Aircraft Airworthiness (ASAA)<sup>(2)</sup>

By ENAC & ISAE-SUPAERO

In Partnership with Ecole de l'Air et de l'Espace



#### Objectives

- **Give** future managers a broad knowledge of airworthiness priorities and issues, with a focus on air transport safety, from design to operations, in an international environment.
- **Cover** both the technical and regulatory aspects of certification and in particular.
- **Manage** an aircraft certification programme.
- **Determine** the compliance of an aircraft and its systems for certification.
- **Define** a certification strategy for aircraft and innovative technologies.
- **Ensure** continued airworthiness and manage follow-up for aircraft maintenance.

#### Contents

- Management of aircraft and certification programme, aircraft and systems certification, continued and continuing airworthiness.

#### Career Opportunities

Certification or airworthiness engineer positions and a wide range of job opportunities within civil or military aircraft - engines - systems manufacturers, suppliers, airlines and aviation safety authorities.

(2) RNCP-certified qualification n°39574  
EQF level 7 - Professional Qualification - Airworthiness & Certification Engineer

### Embedded Systems (EMS) By ISAE-SUPAERO

In partnership with Toulouse INP N7



#### Objectives

- **Prepare** embedded systems experts with both system level and functional level design skills.
- **Develop** a system approach through integrated projects to master methods & tools used in aeronautics, space and the automotive sector.

#### Contents

- Embedded Systems core - Energy - Networks - Embedded Systems design - Embedded Systems applications.

#### Career Opportunities

Employment as designer, developer, research engineer including project manager in design and development of innovative embedded systems.



### Systèmes de Propulsion Aérospatiale (SPA)

By ISAE-SUPAERO



#### Objectives

- **Train** propulsion engineers, able to design and operate gas turbines, specialized in internal aerodynamics, with a multidisciplinary knowledge of propulsion systems.
- **Provide** with expert knowledge in energetics, fluid dynamics and aerothermodynamics applied to propulsion systems.

#### Contents

- Overall architecture of propulsion systems, Internal aerodynamics, Project.

#### Career Opportunities

Engineer positions with aerospace engine manufacturers in design, research and development, and testing facilities. Possibility to pursue with PhD.

### Space Applications & Services (SPAPS)

By ISAE-SUPAERO

In partnership with AIRBUS Defense and Space



#### Objectives

- **Provide** students with the technical knowledge required for telecommunications, Earth observation or positioning services.
- **Enable** students to identify the specific constraints of satellite deployment and the key elements of the value chain and business model.
- **Provide** students with a broad understanding of space systems to enable them to analyze client needs and design new services.

#### Contents

- Space systems - Digital Techniques - Earth observation - Navigation and Positioning - Space Communications - Space economics, regulations 1 services, tutored project.

#### Career Opportunities

Jobs related to cross disciplinary use of space data in complex information systems: consulting jobs to identify and define requirements, and implement application solutions using satellites, Jobs related to new space challenges.

### Aeronautical Engineering (TAS AERO)

By ISAE-SUPAERO

#### Objectives

- **Develop** a high skills level in engineering science, neuro-ergonomics for human factors, current technologies, design and management of aeronautical systems, or flight test methodologies.

#### Contents

- Structures and materials - Flight physics - Avionics and systems - Major Flight Test
- Engineering FTE OR Major Aircraft Design Engineering ADE

#### Career Opportunities

Job research engineer, test engineer or design engineer, consultant Sector: Aerospace industry worldwide.

### Systems Engineering (SEN)<sup>(3)</sup> By ISAE-SUPAERO

#### Objectives

- **Provide** the international aerospace industry with skilled professionals equipped to specify, to design, to deploy and maintain complex systems.
- **Develop** a system approach with the capacity to federate and manage various, interwoven and complementary activities.
- **Prepare** systems engineers to work in various industrial sectors including space, aeronautics, air traffic control, land transport systems, etc.

#### Contents

- Systems Engineering - Systems Modelling and Analysis - Systems Engineering Data Technical Management - Human factors - Systems Dependability - Systems Performance Assessments & Management - Systems design and Architecture - ILS.

#### Career Opportunities

Jobs in Engineering Systems Team within industries in different economic sectors, either in major companies or consulting companies in aircraft, ships, military and defense systems, automotive or other industries developing and producing smaller high technology products (cameras, mobile phones, printers, computers, etc.).

### Helicopter, Aircraft & Drone Architecture (HADA) By ISAE-SUPAERO

In partnership with AIRBUS Helicopters



#### Objectives

- **Acquire** the basic skills required for aeronautical engineers (architecture, certification and structures) and specific skills to identify problems, generate alternatives, choose and implement solutions on aircraft, helicopters and drones.
- **Get** comprehensive training from systems to structures through aerodynamics, flight dynamics and certification while encouraging and taking into account the diversity of the profiles of the selected students.

#### Contents

- Aircraft structures, Aircraft architecture and Certification Fixed-wing Aircraft - Helicopter Drone.

#### Career Opportunities

Job opportunities in design, certification and operations of civil and military aircrafts, drones and helicopters in France and abroad.

(3) RNCP-certified qualification n°41130  
EQF Level 7 - Architect Manager in Systems Engineering



### Aeronautical & Space Structures (AES)

By ISAE-SUPAERO

#### Objectives

- **Ensure** participants to acquire an in-depth and multi-disciplinary culture in mechanical engineering as applied to structures.
- **Train** specialists in design, optimization and certification of structures.
- **Provide** expert knowledge in modelling & simulation methods for aircraft and spacecraft structure analysis.

#### Contents

- Aerospace structures: methods & tools for engineering & dynamics - Aerospace systems architecture - Aerospace structures: dynamics & physics- Aerospace programs & technologies, Team Innovative Management for Evolved Strategies.

#### Career Opportunities

Associate professional in the context of systems design and integration, manufacturing Process Optimization, systems architect, change leader, in major aerospace companies.

## PROJECT MANAGEMENT, INNOVATION & ENTREPRENEURSHIP

### Innovation, Entrepreneurship & Management (IEM)

By ISAE-SUPAERO

Scholarships in partnership with Safran are offered for this sole programme.



#### Options

- Aeronautics, Space & Defense
- Strategy, Innovation & Business Transformation Consulting.

#### Objectives

- **Develop** an innovation and entrepreneurial spirit.
- **Train** for technological project management (from the origin of the project to its commercialization), with new methods of management on innovative projects with an "Intrepreneurial" spirit.

#### Contents

- Large range of new technologies (such aircraft disciplines as propulsion or structure - additive manufacturing, machine learning & artificial intelligence, Big data...) - project management tools & methods, economics & finance - entrepreneurship - innovative project...

#### Career Opportunities

Startuper, head of innovative project, head of innovative and technologic development (CTO in charge of technical innovation and technologies deployment), Consultant in Innovation and business transformation.



### Artificial Intelligence & Business Transformation (AIBT)<sup>(4)</sup> By ISAE-SUPAERO

In partnership with TBS EDUCATION, IRT St Exupery, MIDISUP



#### Objectives

- This Advanced Master is part of the necessary transformation of data valuation, particularly by Artificial Intelligence.
- This programme targets new jobs by offering part-time training for technical managers or high-potential managers.

#### Contents

- Project Management - Artificial Intelligence Internals - Business Aspects of Artificial Intelligence - Hands-on practice.

#### Career Opportunities

Data Evangelist, Project manager in Artificial Intelligence, Manager of data engineers, data analysts, data miners and data scientists...

(4) RNCP-certified qualification n°40551  
EQF level 7 - Professional Qualification - Project Manager in Artificial Intelligence & Data Sciences



(1) RNCP-certified qualification n°38995  
EQF level 7 - Professional Qualification - Safety Manager in Air Transport System

\*\*\* Mastère Spécialisé® - Label of Conférence des Grandes Ecoles CGE  
\* depending on programmes and candidates backgrounds