



# Aviation Safety: Aircraft Airworthiness

(ISAE-SUPAERO / ENAC / ECOLE DE L'AIR)



## ■ Objectives

Airworthiness plays a pivotal role in aviation safety and development, guaranteeing that design, manufacture, operation and maintenance of aircraft, engines and systems are suitable for safe flight. It is supported by an overall process for which a solid regulatory and technical knowledge is necessary.

The Advanced Master ASAA provides the required high-level skills and competencies in the fields of airworthiness regulations, aircraft and systems design and certification, continued airworthiness and operation. It has been designed to meet industry and authorities demand for airworthiness or certification engineers specific profiles.

To further improve safety within a growing aviation industry, and to efficiently and safely introduce in the skies new technologies and innovative aircraft architectures, this program delivers relevant methodologies and keys to enhance certification approaches for civil and military aircraft.

## ■ Learning approach

### First semester:

Academic session of courses from October to March. A well-structured progressive approach through lectures, projects, tutorials, visits of aeronautical industries, up to an Integrated Team Project to apply learnings on job-based situations.

### Second semester:

Students have to conduct a professional thesis or make an internship in an industry or in a laboratory, in France or abroad, supervised by a tutor from the host organization and from ISAE-SUPAERO or ENAC or Ecole de l'Air. The thesis is concluded by the preparation of a report and an oral dissertation in front of a jury.

## ■ Organization

### Head of Program ISAE-SUPAERO

- Prof. Joël JEZEGOU  
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### Head of Program ENAC

- Pascale PUEL  
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### Head of Program École de l'Air

- Florent BASTIEN  
florent.bastien@ecole-air.fr

### Course duration

One year full time: 6 months of courses and 6 months of professional thesis or internship.

### Course start date

End of september

### Location

ISAE-SUPAERO (Toulouse), Ecole Nationale de l'Aviation Civile (ENAC) (Toulouse), Ecole de l'Air (Salon-de-Provence)

### Teaching language

English

## ■ Syllabus

### Part 1: Certification Procedures - 78 h

- Certification Procedures
- Change to Type Certificate

### Part 2 - Transverse Certification Items - 88 h

- Safety and Design Requirements for Systems
- Environmental Certification
- Human Factors
- Normal-Category Aircraft

### Part 3: Aircraft Certification - 183 h

- Flight
- Structure
- Avionics
- General Systems & Cabin
- Normal-Category Aircraft and Unconventional Products Certification

### Part 4: Integrated Team Project (ITP) - 62 h

- Certification Plan ITP
- Safety and Regulatory Intelligence ITP

### Part 5: Continuing Airworthiness and Operations - 43 h

- In-Service Occurrence Management
- Continuing Airworthiness
- Operations & Operational Certification

### Part 6: Airworthiness of State Aircraft - 30 h

- Airworthiness of State Aircraft

## ■ Career opportunities

The program fully matches job market expectations for certification or airworthiness engineer positions. It offers a wide range of job opportunities within civil or military aircraft – engines – systems manufacturers, suppliers, airlines and aviation safety authorities.

### Companies recruiting our students

Aeroconseil, Airbus, Air France, ATR Aircraft, Dassault Aviation, DGAC, Assystem technologies, AKKA Technologies, ALTEN, SII Group, National Aviation Authorities, EASA, Transport Canada, French Ministry of Defence, Brazilian Air Force, Flying Whales, COMAC (China), AVIC (China), Lilium GmbH (Germany), AMAC Aerospace (Switzerland), Embraer (Brazil), Hal (India), Blue Bird Aviation (Kenya), Pipistrel (Slovenia)






## Testimonies

### Why did you choose ISAE-SUPAERO and apply for this MS?

SOPHIE LE QUELLEC,  
Graduated in 2018  
Avionics Airworthiness Engineer - Airbus

 I am a General Engineer, having graduated 20 years ago. Throughout my career, I have had the opportunity to work in high standards industries in Naval

Defense and Space. Reaching mid-career and being strongly attracted by aeronautical matters, I decided to be trained in the best aeronautical schools, ENAC and ISAE-SUPAERO in order to get a reputable diploma allowing me to apply to interesting job positions in aeronautics.

### What were your objectives?

My first objective was to get a comprehensive understanding of aircraft design and the link with Aviation regulations. I also wanted to work in an environment where **I can mix**

**multidisciplinary technical aspects, regulations, team working, negotiation and contribute to aviation safety.**

### According to your experience, what are the strong assets of this master?

The lectures were at a very high level of knowledge, quite intensive and very comprehensive, mostly given by experts coming from aircraft industries. I highly appreciated the

multicultural environment with classmates from all over the world.

### What are your career plans?

Thanks to this master, I was able to get immediately a job as a Certification Team Leader, working on avionics major modifications on AIRBUS aircraft. My mid-term goal is to join

an aircraft manufacturer and to be part of the team who will get the certification of a new or modified aircraft.



## Admission procedures





### ■ ADVANCED MASTERS

#### Academic requirements

A master's degree, or an equivalent degree in science or engineering (or in management for advanced masters in management), or bachelor degree completed by 3 years of professional experience

Tuition fees : see our website

### LANGUAGE REQUIREMENTS FOR ALL MASTERS

<b>TOEFL (IBT)</b>	or	<b>TOEIC</b>	or	<b>IELTS</b>	or	<b>CAE/FCE</b>
						
<b>85 points</b> <small>(Inst. code: 9820)</small>		<b>785 points</b>		<b>6.5 points</b>		<b>170 points</b>

NOTA BENE : Volume of teaching hours and contents of the programs are provided for information only and are subject to change.

### LANGUAGE REQUIREMENTS FOR MASTERS IN FRENCH

#### Language qualification requested

Score B2-Common - European Framework of Reference for Languages

### ■ SELECTION AND ADMISSION

#### Selection and admission are made by an admission committee:

Possible interviews can be organized if necessary

#### Deadlines for application:

Applications open in october 2020 for intake in september 2021.  
Several admission committees scheduled from January to July, see schedule on our website

#### Application website :

<http://admissionsmasters.isae-supaero.fr>



#### Funding

Information on tuitions fees and funding can be found on our website

<https://www.isae-supaero.fr/en/academics/advanced-masters/financing/>

## Your contacts

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