



# EXPERIMENTAL FLIGHT TEST ENGINEERING

ADVANCED MASTER

WITH



## ONE YEAR FULL TIME

- 2 months of preparation courses
- 10 months of technical courses

## TEACHING LANGUAGE

- French

## START OF CLASSES

- June

## LOCATION

- EPNER, Istres, France
- ISAE-SUPAERO, Toulouse, France

## KEY POINTS

- 110 hours of flying on 20 different planes and 15 helicopters.
- French classes focused on aeronautical vocabulary to be well equipped for EPNER training program.

## HEAD OF PROGRAM

- ISAE-SUPAERO: Prof. **Éric POQUILLON**  
*eric.poquillon@isae-supaero.fr*

## PRE-REQUISITES

- A Master's Degree or an equivalent degree in science
- Or a Bachelor's Degree with at least 3 years of professional experience
- International degree equivalent to the aforementioned degrees.
- These programs can also be accessed from 5 years of professional experience (VAPP)

## CONTACT

- Young graduates with less than 1 year of professional experience:  
*info-programmes@isae-supaero.fr*
- Experienced professionals:  
*info.exed@isae-supaero.fr*
- People with disabilities, assistance is available at  
*laurence.ballarin@isae-supaero.fr*



[More information](#)



• The **Advanced Master's®** Experimental Flight Test engineering accredited by the Conférence des Grandes Ecoles (*under number 653*)

## OBJECTIVES

Under the aegis of the DGA, ISAE-SUPAERO and EPNER pooled their expertise to set up the first Master's degree in Flight Test Engineering for pilots and engineers generating synergies through their recognized aerospace teaching skills.

EPNER is one of the leading Flight Test Schools in the world offering high-level courses for Flight Test Pilots and Flight Test Engineers. EPNER offers fixed wing and rotary wing courses for test pilots and engineers.

ISAE-SUPAERO and EPNER together developed a comprehensive program integrating their competencies and existing courses to provide EPNER flight test course participants with an ISAE-SUPAERO Master's degree Specialized in Experimental Flight Test Engineering in addition to the EPNER qualification.

**WHAT?** The Experimental Flight Test Engineering Master is a 12-month course organized by ISAE-SUPAERO and EPNER aimed at providing both Governmental Organisations and Aircraft manufacturers with highly qualified test pilots and flight test engineers. Aware of the necessity to conduct the flight test program in close coordination between pilots and engineers, the original spirit of this program is to prepare pilots and engineers to work in integrated teams.

**HOW?** The objectives of the Master is to develop theoretical and applied skills for experienced pilots and engineers to prepare, implement and report on flight tests either for aircraft or complex embedded-systems, in the best safety conditions. After graduation, these skilled professionals are able to participate in civilian certification of new or modified aircraft, aircraft or equipment development programs, military acceptance programs, either fixed-wing or rotary-wing.

The course is split into two periods:

- 2-month course in basic sciences and French aeronautical communication organized at ISAE-SUPAERO campus, in Toulouse,
- 10-month Experimental Flight Test course, for fixed wing or rotary wing pilots and engineers, given at EPNER in Istres.

## LEARNING APPROACH

Academic session consists of around 450h of ground and simulator courses, provided by ISAE-SUPAERO and EPNER's tenured professors and experts from industry bringing current knowledge and experience.

And around 110 flying hours on more than 20 airplanes for the fixed-wing stream and 15 helicopters for the rotary-wing stream.

Throughout the program, students conduct professional theses, assessing aircraft or embedded-systems. These theses conclude with the submission of a report and an oral dissertation.

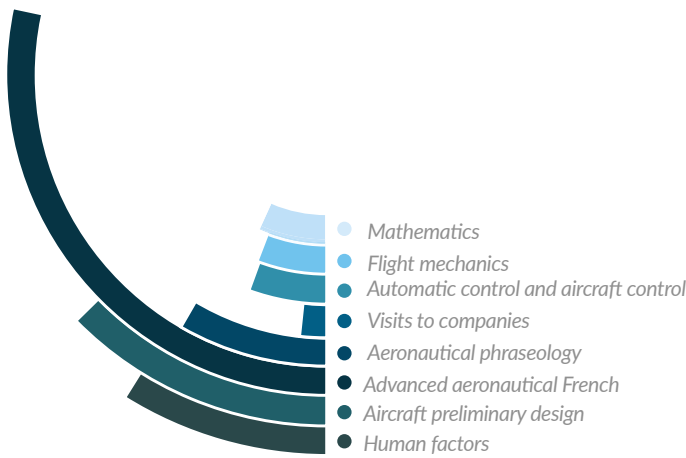
## CAREER OPPORTUNITIES

The Master intends to prepare skilled professionals, pilots or engineers as:

- Managers of flight tests implementation, flight envelop extension of aircraft or embedded-systems in close cooperation with design and development offices
- Managers of flight tests centers.



### SYLLABUS



#### Part 1: ISAE-SUPAERO

##### International attendees

- Mathematics
- Flight mechanics
- Automatic control and aircraft control
- Visits to companies
- Aeronautical phraseology
- Advanced aeronautical French

##### French attendees

- Mathematics
- Flight mechanics
- Automatic control and aircraft control
- Visits to companies
- Aeronautical phraseology
- Aircraft preliminary design
- Human factors

#### Part 2: EPNER

- Systems engineering introduction
- Safety of flight tests
- Basics of aerospace technics
- Documentation, procedures applied in flight tests programs
- Performances tests
- Propulsion tests
- Handling tests
- Embedded-systems tests

- Specific test (fixed-wing): flight envelop extension
- Certification, acceptance, assessment, etc
- Specific test (fixed-wing): flight envelope extension
- Specific flights, synthesis activities
- Professional thesis

### TESTIMONIES

#### RICE WILLIAMS

Class of 2019

“ This course was the only option and a great way to practice the French language in the sector of aviation while refreshing math and science I hadn't seen in 10 years. I was hoping to get a head start for EPNER.

#### DAVID SANZ-SAGREDO

Class of 2021-2022

“ It is one of the best aerospace schools in Europe and I wanted to learn as much as I could in order to become a flight test engineer. It gives you the right previous concepts before starting the flying phase along with good training in both technical and colloquial French.