

Aeronautical Maintenance and Support Engineering & Management



■ Objectives

Aeronautical maintenance and support ecosystem is a highly competitive and dynamic international environment, facing exciting commercial, economical, strategic and technical challenges, with constant safety concerns.

Encompassing a wide range of complex activities (concurrent engineering, operability analysis, integrated logistics support, lifecycle management, line-base-shop maintenance, repair, modification, support services, supply chain services), it plays a key role for defence and civil aviation. It aims at designing, managing and ensuring aircraft continuing airworthiness and safety at acceptable costs with the best availability, while benefiting from technological innovations to create added-value for stakeholders.

The Advanced Master AMS-E&M delivers the appropriate high-level competencies and know-how in aircraft architecture, maintenance and support delivered by experts, with an exposure to latest techniques and methods, know-how, innovation, regulations and standards applied through this value chain. It prepares attendees to join successfully the competitive and fast changing Maintenance & Support worldwide business.

■ Learning approach

First semester:

Academic session of courses from September to March. 450 h of lectures, projects, tutorials, practical sessions, visits of aeronautical industries.

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. The thesis is concluded by the preparation of a report and an oral dissertation in front of a jury.



■ Organization

Head of program

- Prof. Joël JEZEGOU
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Course duration

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

Course start date

Mid September

Location

ISAE-SUPAERO

Teaching language

English

■ Syllabus

Part 1: Aircraft General Familiarization

Aircraft architecture - Structure & Materials - Aircraft General Systems - Avionics - Engines and Powerplant.

Part 2: Maintenance and Support in Aircraft Design

Operability and Maintainability Influence on Design - Integrated Logistic Support (ILS) and Logistic Support Analysis (LSA) - Configuration Management - Development and evolution of a maintenance program (MSG-3) - Ground Support Equipment Project LSA/ MSG-3

Part 3: Maintenance & Health Management Analysis & Modelling

RAMS techniques and modelling - PHM, Predictive maintenance and data analytics.

Part 4: Maintenance Execution & Management

Engines maintenance - Systems troubleshooting - Equipment maintenance - Organization and management of a maintenance department - Military maintenance organization - Project MRO.

Part 5: Airworthiness, Safety & Human Factors

Aviation regulation, airworthiness and Safety analysis - Continued & continuing airworthiness - Human Factors and MRO Safety Management System.

Part 6: Customer Support

Customer support and services. Aircraft financing and Stakeholders liability.

Part 7: Supply Chain & Recycling

Supply chain Airlines economics and liabilities.



■ Teaching staff

Teaching staff is composed of ISAE-SUPAERO's permanent professors and experts from aerospace and aviation industry with aeronautical industrial background (Airbus, Air France, Dassault Aviation, ATR, Sabena Technics, Safran, AKKA Technologies, Star Engineering).

■ Career opportunities

Engineering or management position in aircraft-engines-components manufacturers (OEM) and suppliers, airlines, approved maintenance organizations, continuing airworthiness management organization (CAMO), in-service support departments, OEM, supply chain organizations, authorities in civil or military aeronautical industry.

■ Example of positions

Maintenance engineer or manager, maintainability/operability engineer, product support engineer, logistic support engineer.

Companies recruiting our students

Air France Industries, Airbus, Dassault Aviation, French Navy, Sabena Technics, ATR-Aircraft, Groupe ORTEC, Star Engineering, AKKA Technologies, SII, SAFRAN AIRCRAFT ENGINES, Sopra Steria, COMAC (China), AVIC (China), Singapore Air Force, ...



Testimonies

Why did you choose ISAE-SUPAERO and apply for this Advanced Master What were your objectives?

LUCIE BONNAURE,

Graduated in 2018

GE90 powerplant engineer - Air France KLM E&M

I choose ISAE-SUPAERO to realize an advanced master because it was for me the insurance to have a formation of quality. I also knew a former student from my school who did this same master two years before and who told me about it. I choose the AMS advanced master because I wanted to work in the civil aeronautical maintenance industry and by reading the

program of the courses before to apply, I found it very complete and interesting (a lot of technical subjects but also courses about the regulation and about aircrafts airworthiness which I knew not much about).

My main objective was to learn as much as I could and to find an internship in an aeronautical maintenance company that could directly lead to an employment afterwards within a maintenance department (service manager).

According to your experience, what are the strong assets of the Master?

I think the strongest asset of this master is **to propose a large range of different subjects around the aircraft maintenance**. It is also the occasion to meet a lot of professionals from different sectors.

When you are looking for a job it gives you a pretty good idea of what it is possible to do.

What are your career plans?

I am a part of a program for young employees for a 4 years duration so in the short term I intend to stay in the same company. After that, I would be interested to work abroad depending on the opportunities!



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

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

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-supero.fr>



Funding

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

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

Your contacts

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