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 decommissioning), 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 October to April.
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
  joel.jezegou@isae-supero.fr

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

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).

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

Part 6: Support & Service
Customer support and services - Aircraft financing and Stakeholders liability - Supply chain and logistics - Aircraft Decommissioning.
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, Daher).

Career opportunities
Engineering or management position in aircraft-engine 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. 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, Sopra Steria, COMAC, AVIC, Singapore Air Force, Air Calédonie, Air Archipels...

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

GUILLAUME CONTI
Graduated in 2020
Airframe project manager | Sabena Technics

After my engineering degree, I have decided to work for two years to discover the world of customer services and I became very interested in Aircraft maintenance. Nowadays, engineering schools deliver generalist training and in my opinion specialized master are very useful to bring value to your career and help the transition between studies and professional world, so my objective was to attend additional classes to get specialized in aircraft maintenance. I naturally applied to ISAE-SUPAERO which is the only school at the cutting edge of aeronautic.

ABRAHAM NELSON
Graduated in 2020
Customer Manager - Maintenance program Engineering / AIRBUS SAS

I first discovered space activities and products throughout my end-of-study mechanical engineering internship at the mechanical analyses department of Airbus Defence & Space in Toulouse. This experience fascinated me and enabled me to discover a whole new world that I didn't know before and even wouldn't have imagined to work in. It convinced me to have my career in that field. To do so, I first wanted to improve my theoretical knowledge about space structures and mechanics and graduate in that specific field to complete my general mechanical engineering degree. ISAE-SUPAERO's AES (Aeronautical and Space Structures) Advanced Master seemed to be the best way to do so and it was according to all the testimonies that I collected. Prior to my tenure with ISAE-SUPAERO, I had been working for the Airline / MRO Engineering Industry several years. My desire was to enhance my knowledge boundaries and educational qualification to obtain an in-depth understanding that would help me obtain an overall picture of the aeronautical maintenance and support industry.

According to your experience, what are the strong assets of the Master?
According to me the assets of the Advanced Master are the strong and efficient support from ISAE-SUPAERO administration, the non-academic classes focusing on the real needs of the industry, the exciting projects and incredible factory tours and finally the strong network of former students.

The strength of the AMS Master is that not only it enhanced my knowledge, but it also prepared me to be industry ready by instilling in me the current and future practices of the industry. All my professors were well established pillars from the Aeronautical Industry. A great example to this factor is that my current boss in Airbus was a professor from ISAE-SUPAERO.

What are your career plans?
To be part of working parties teams, to be a specialist of base maintenance and to support French forces aircraft maintenance

I was sure at a very young age that the aviation / aerospace industry will keep constantly upgrading and endlessly expanding. I am zealous to be a good part of this amazing industry to learn, grow and contribute towards its expansion and evolution.
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.

LANGUAGE REQUIREMENTS FOR ALL MASTERS
(including for Masters taught in French)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL (IBT)</td>
<td>88 points</td>
</tr>
<tr>
<td>TOEIC</td>
<td>785 points</td>
</tr>
<tr>
<td>IELTS</td>
<td>6.5 points</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAE/FCE</td>
<td>170 points</td>
</tr>
<tr>
<td>Linguaskill</td>
<td>170 points</td>
</tr>
</tbody>
</table>

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 2021
for a start of classes in September 2022.
Several admission committees are scheduled from January to July,
see schedule on our website

Application website :

Funding
Information on tuition fees and funding on our website

Your contacts

Philippe GALAUP
Head of recruitment and Contractual Relations
Phone: +33 (5) 61 33 80 27

Caroline ARMANGE
Senior Admission Advisor / Advanced Masters
Phone: + 33 (5) 61 33 80 25

info-masters@isae-supaero.fr
www.isae-supaero.fr