

Aerospace - Project Management

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



■ Objectives

Aeronautical, Space and Defense business is, by nature, complex, innovative with high technical added value. Placed at the heart of political, economic, environmental and technological issues, in France, in Europe and worldwide, it requires a prospective vision from decision makers. It is based on specific industrial processes, characterized by long, costly and risky cycles (R & D, production, maintenance & support).

In this context, project management in aerospace environment requires mastering a wide scope of knowledge, know-how and expertise adapted to the specific needs and issues of this challenging worldwide business.

To answer to these concerns, ISAE-SUPAERO, Ecole de l'Air and ENAC gather their expertises to develop the Aerospace Project Management (APM) advanced master.

The professionally-oriented APM advanced master provides students with an overview on military or civil international Aerospace industry and gives up-to-date skills, cutting-edge knowledge, and necessary competences for successfully leading Project or Program teams in global aerospace and defence industry.

■ Learning approach

First semester: with an emphasis on operations, the program is designed to those beginning their career in management of projects or to professionals aiming at enhancing their competences for a fast career evolution. The program of the APM is taught, by experts or lecturers with extensive aerospace project experience, with a combination of formal presentations, in-class exercises and study cases. The objectives of this practical approach are to provide students with current techniques and tools in project management taking into account industrial, economical or legal specificities of the Aerospace business.

The teaching staff is composed of professors, lecturers and consultants from ISAE-SUPAERO and Ecole de l'Air (CReA). Several consultants, experts into project management are invited to deliver their knowledge from their own experience.

On top of that, many experts from industries, most of the time heads of aerospace programs, will illustrate parts of the courses.

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 Ecole de l'Air or 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 ISAE-SUPAERO

- Prof Philippe GIRARD
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Head of Program Ecole de l'air

- Prof Pierre BARBAROUX
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Head of program ENAC

- Prof Nicolas PETEILH
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Course duration

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

Course start date

End of September

Location

- ISAE-SUPAERO (Toulouse)
- ENAC (Toulouse)
- École de l'Air (5 weeks in Salon de Provence - October November)

Teaching language

English

■ Syllabus

The comprehensive training program is organized into four teaching parts:

Part 1: Overall overview of aerospace industry - 50 h

The first part provides the students with an in-depth overview of worldwide aeronautics and space industries enabling them to have an overall understanding of technologies, products, innovation and strategy stakes in the global civil and defence market.

Part 2: Methodology - 190 h

This part leads to a good understanding of Project management tools (WBS, planning, needs specification, etc).

Models and Methods of Project management for Aerospace context with specificities for high stakes and long cycle programs.

Part 3: Economic and financial aspects - 150 h

This part leads to a good understanding of economical stakes for nations or industries and the role of politics.

How to evaluate the cost of a long term program, the investment return hope, but also how to manage costs during development or manufacturing phase.

Part 4: knowledge management in multicultural team project - 60 h

This part underlines the necessity to integrate and federate competences around a common objective: how to motivate people for a long term project.

How to integrate intercultural management within international Program to avoid conflicts and change resistance.

In each of these parts the risks evaluation and control will be systematically underscored as well as Quality concepts and indicators dedicated to Aerospace context.



■ Career opportunities

APM advanced master program leads students to integrate or to become Head of Aerospace program team. To conceive and pilot complex projects with permanent care of costs and risks control in Aerospace companies or in defense in

Companies recruiting our students:

AIRBUS, Air France, AVIC, Liebherr Aerospace, Reliance Defence, Scalian, Safran Electronics & Defense, Elron Consulting, Jet Aviation, RUAG Aerospace Structures....

PMI

PMI Certification

The APM program offers you to get PMI Certifications: CAPM or PMP. In an increasingly changing world, professional certification ensures that project managers to meet the demands of space projects through the globe. By offering an additional month of training, you will be specially prepared to CAPM or PMP exams. Volunteers will have opportunity to complete the APM diploma with a PMI certification well known and appreciated through the world and which open door to success. Teachers for preparation are certified themselves and experts of PMBOK reference.



Testimonies

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

PAVITHRA MANGHAIPATHY
Graduated in 2019

At my masters program at Georgia Tech we had a presentation from ISAE-SUPAERO and even before that while I was researching Global Aerospace Programs I had come across ISAE several times. Having the chance to talk to my professors and also interact with the panel at the presentation solidified my decision to apply because I was looking for a global program. As for the APM Advanced Masters, I sat and thought about where I wanted to be in the Aerospace Industry, I had an American Degree which was very research focused but I wanted to gain a better understanding of the Global industry situation. In order to do so, the MS APM course at ISAE offered a package that was very broad and I felt as though I could benefit from the learning experience.

CAMILLE RIAN
Cohort 2019/2020

I am currently working as an Intern at Thales Land & Air Systems, as a Customer Training Marketing Officer.

After completing a Master in Management at IESEG School of Management, I was looking for an additional training in the aerospace industry, as I am passionate about aeronautics and I wanted to work in this industry. It seemed natural to me to apply to ISAE-SUPAERO in particular because of its reputation, and its very good ranking in higher education in the field of aerospace engineering. Also, the school's localization, in Toulouse, at the heart of the European Aerospace industry made my choice even more obvious. Therefore, on both academic and professional sides, I believed it was the best choice to fulfill my project. Then, two things made me choose this MS: the technical aspect of Project Management applied to the aerospace industry as a whole, and the fact that the program has some courses at ENAC and Ecole de l'Air. My objectives were to acquire technical knowledge on Project Management, and to learn how a project is led in the aerospace industry. I also intended to acquire a better culture of both civil and defence markets. Finally, my objective was also to start building a network in this industry, as well as to meet and work with people who have a completely different background as mine.

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

I think the strongest asset of the Masters is that it covers a lot of topics. While that may seem a bit daunting, it really offers the chance to see the industry for what it is and appreciate its vast diversity. The Aerospace Industry is very complex and is very unique in its own right, combine that with the turnover and rate of development, I think this master puts it all into perspective and helps you really plan out a path.

The biggest asset of the Advanced Master, for me, is that it is complete: it covers both civil and military cultures environments, and shows the wide diversity of the aerospace industry through different points of view, and by covering all the subjects of Project Management. The program helps to understand the Aerospace Industry as a whole, with its problematics and stakes. Also, this would not be possible without the quality of the professionals who come to teach the program. Experts in their field, with different professional and cultural backgrounds, they are key to help students understand Project Management in this very particular industry. Finally, the last important asset is the diversity of cultures and nationalities within the year group.

What are your career plans ?

Currently, I want to invest all my energy into understanding how I can contribute to design and innovation now that I have both a technical and non-technical basis and reach a balanced approach. Even in the long term, I want to focus on streamlining innovation to be more open, inclusive and efficient.

Currently, I am half way of my internship at Thales Land & Air Systems, working in marketing. With the Covid-19 crisis, the industry has slowed down and recruitment is less frequent. It is important to keep having projects and to turn the situation as an opportunity. The defence environment has always been part of my former internships and professional experiences, and the Advanced Master has heightened my interest for it. I am working on how I can contribute to this environment, with the skills I learnt at IESEG School of Management and ISAE-SUPAERO, being both hard skills and soft skills.

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-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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