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# 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

With an emphasis on operations, the program is designed to those beginning their career in the 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.

## ■ Organization

### Head of program

- ISAE-SUPAERO
- Prof Philippe GIRARD  
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### École de l'Air

- Pierre BARBAROUX  
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### ENAC

- Prof Nicolas PETEILH  
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### Course duration

One year in full time or two years in part time  
Course start date  
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:

### First part: Overall overview of aerospace industry (60 hours)

The first part provides the students with an in-depth overview of world-wide 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.

### Second part: Methodology (207 hours)

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.

### Third part: Economic and financial aspects (166 hours)

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 cost during development or manufacturing phase.

### Fourth part: knowledge management in multicultural team project (73 hours)

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.

### Professional thesis

During semester 2, students have to conduct a professional thesis in aerospace industry or in laboratory, in France or abroad, supervised by a tutor from the host organization and from ISAE-SUPAERO or Ecole de l'Air. The thesis is concluded by the preparation of a report and an oral dissertation in front of jury.

## ■ Teaching staff

The teaching staff is composed of professors, lecturers and consultants for 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 with parts of the courses.



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## ■ 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 institutions.



### Testimonies

#### What is your current situation?

I am Mechanical Systems Engineer at Ariane Group working for Arianespace as Responsible for Upper Part Mechanical activities for Ariane, Soyouz and Vega, and Mechanical Interface Functional Responsible.

My job consists in taking into account the customer needs and the mechanical specificities of the launcher in order to prepare and perform the mechanical operations for the different launch campaigns at the Centre Spatial Guyanais.

I am a team member of the launch campaign team and I manage the scheduling activity, resources planning but also monitoring and controlling the risks and issues of different operations.

#### In your opinion, what is the added value of this program?

The Aerospace Project Management Advance Master delivers a high standard quality knowledge, that is perfectly aligned with the functioning of the most important aerospace companies. Even if I am not a project manager yet, the skills I've acquired give me the ability to better interact in my multicultural environment, by understanding the complexity of my organization, the roles and responsibilities and the stakes of the different programs on which I am involved. The APM AM offer a great opportunity to be prepare to the PMI certification which is now used as the standard for the major aerospace projects.

LUDOVIC FRAUMAR  
Graduated in 2015

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.

#### Why did you choose ISAE-SUPAERO and apply for the Advanced master «Aerospace Project Management»? What were your objectives?

After completed an engineering degree at ESTACA, I wanted to complete my technical knowledge with an Advanced Master in management. Aeronautics has always changed at the mercy of projects and project management skills were missing in my training. I had three objectives for this additional year: first, acquire project management skills and specific tools to lead projects properly and successfully. Secondly, I wanted to work in a multicultural environment with classmate coming from all around the world. But most of all, I wanted to consolidate my professional project.

#### According to your experience, which are the strong assets of the Master you did?

I chose to integrate "Aerospace Project Management" Advanced Master because the program offered exactly what I was looking for. I knew that the quality of the lectures would be very high thanks to speakers coming from the industry. The infrastructures and means provided to students are awesome and community associations are really encouraged. Moreover, as a passionate, taking classes in the top three aeronautic schools at the same time was a dream and a great pride

#### Which are your career plans ?

I did my professional thesis within Air France Industries in the Innovation Department where my mission was to lead a project in collaboration with a start-up for cabin maintenance. Thanks to the master, I reached my internship's objectives and I was hired as an innovation project manager. Getting responsibilities just after graduation is very promising and I will probably apply for a bigger project in few years after having consolidated my knowledge.

DÉBORAH FERNANDEZ

France, Innovation Project Manager at Air France Industries KLM Engineering & Maintenance, graduated in 2016



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## ■ 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

#### Application website :

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

### Selection and admission

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

Possible interviews can be organized if necessary

#### Deadlines for application:

Several admission committees scheduled from January to July, see schedule on our website

### Language requirements for Masters in English

<b>TOEFL (IBT)</b>	or	<b>TOEIC</b>	or	<b>IELTS</b>	or	<b>CAE/FCE</b>
						
<b>85 points</b>		<b>785 points</b>		<b>6.5 points</b>		<b>170 points</b>

### Language requirements for Masters in French

#### Language qualification requested

Score B2-Common - European Framework of Reference for Languages



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## ■ **Your contacts**

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