

AERONAUTICS AND SPACE GRADUATE SCHOOL OF ENGINEERING



SCHOOL ACCREDITED BY NATIONAL ACCREDITATION BOARD (CTI)

POLYTECHNIC INSTITUTE OF ADVANCED SCIENCES

WWW.IPSA.FR



Erasmus+





THE COLLEGE FOR AEROSPACE ENTHUSIASTS

IPSA is an engineering college offering a 5 year syllabus (accredited by the CTI*) 100% dedicated to Aeronautics and Space. The interest in 'everything Aerospace' is a particular source of motivation in the college and the passion is shared by both students and lecturers.

The pedagogy at IPSA is very specific. During their studies, IPSAliens** have to:

- Develop the scientific skills essential to their future profession as engineers specializing in Aeronautics and Space,
- Consolidate their knowledge in the Humanities,
- Remain in permanent contact with the world of work within the aeronautical and space sectors through internships or projects on industrial topics.

* The 'CTI' (Commission des Titres d'Ingénieur) is the organization which monitors and accredits the diplomas of engineering colleges in France.

** IPSAliens is the nickname given to students studying at IPSA



ENCOURAGING
THE PASSION
FOR AERONAUTICS
AND SPACE

PROJECT BASED PEDAGOGY

IPSA places its culture of projects at the center of the curriculum. Right from the start of training, students, working in teams, carry out projects on themes. These become increasingly complex from the 1st year of the engineering syllabus, finishing with a high level of technical content at the end of course. These projects teach students project management.

Examples of projects carried out by IPSAliens during the engineering syllabus.

- Choice of material for the thermal shield of a space shuttle. (3rd year)
- Aviation in the post-oil era? (3rd year)
- Design of a convertible drone (4th year)
- Design of a delta wing interceptor aircraft (4th year)
- Dimensioning an engine for a manned suborbital vehicle. (5th year)
- A study of the wing shape of a FALCON 2000 L (5th year)

THE IPSA SYLLABUS OVER 5 YEARS



The preparatory program (Paris and Toulouse) lasts 2 years and from the beginning, initiates students into the aerospace sector. The passion for the sector is mirrored through concrete industry orientated design and build projects. The subjects studied are mathematics, physics, aeronautical science, computer science and electronics, languages and project management.

The engineers program lasts 3 years and allows students to specialize in their own chosen field and to individualize their courses through options and scientific majors.

During their training the IPSAliens spend 9 months on compulsory approved work experience including a 6 month end of course internship, proving real professional experience right out of school.

3RD YEAR:

aerospace systems or vehicles.

4TH YEAR: 5 MAJORS

- Energy, Propulsion and engine innovation
- Mechanics and aircraft Structures
- Embedded systems and Telecommunications
- Mechatronic control systems
- Space, Launchers and Satellites

5TH YEAR: 3 COURSE CHOICES PROPOSED TO THE STUDENTS

EXPERT-ENGINEER COURSE DESIGN OF AERONAUTIC SYSTEMS

Vehicle :

- Energy And Motorisation
- Aeronautical Cells

Systems :

- Operation And Transmission Of Embedded Information
- Auto Piloted Airborne Controls

DESIGN OF SPACE SYSTEMS

- Space Vehicles
- Space Systems

MANAGEMENT AND INDUSTRIAL LOGISTICS:

- Industrial Projects And Business Engineering
- Industrial Logistics - Production – Maintenance

DUAL CURRICULUM SKILLS IPSA / MBA ISG

(sales engineer)

INTERNATIONAL CURRICULUM:

Double diploma with foreign universities

A COLLEGE WITH A RESOLUTELY INTERNATIONAL VISION

In order to prepare its students for the international and multicultural world that the Aerospace sector has become, IPSA has implemented a major English language training program from year 1, with immersion weeks. Teaching is mostly in English for the last two years of the course, promoting better integration of foreign students and thus increasing academic exchanges with IPSA's partner universities in other countries.

All 4th year students spend a compulsory study semester abroad and 5th year students can prepare a 'French–Foreign double diploma'. These international experiences nurture open minds and can boost the early careers of some graduates.

SOME OF OUR PARTNERS:

- Arizona University, USA
- Cheng Kung National University, Taiwan
- Cranfield University, England, UK
- Nanjing University of Aeronautics and Astronautics, China
- Samara State Aerospace University, Russia
- Shenyang Aerospace University, China
- SeoulTech, South Korea

RESEARCH AT IPSA

At the crossroads of the industrial and academic worlds, research is one of the fundamental axes of Ipsalien pedagogy. A college for Aeronautical and Space engineers, with three research laboratories dedicated to Aerospace, IPSA puts innovation at the heart of its engineering training.

2 axes of research:

- > Microaeronautics
- > Scientific calculation applied to the aerospace field



OUR PARTNERS AROUND THE WORLD

1. GERMANY

→ MUNICH UNIVERSITY OF APPLIED SCIENCES

2. ARGENTINA

→ SAN MARTIN NATIONAL UNIVERSITY

3. AUSTRIA

→ UNIVERSITY OF APPLIED SCIENCES OF WIENER NEUSTADT

4. BELGIUM

→ UNIVERSITY OF LIEGE

5. BRAZIL

→ UNIVERSITY OF SAO PAULO

6. CANADA

→ UNIVERSITY OF LAVAL, QUEBEC
→ UNIVERSITY OF CONCORDIA

7. CHINA

→ SHENYANG AEROSPACE UNIVERSITY
→ UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS OF NANJING

8. COLOMBIA

→ SCHOOL OF ANTIOQUIA ENGINEERS

9. SOUTH KOREA

→ KOREA TECH
→ UNIVERSITY OF DONGGUK
→ UNIVERSITY OF KEIMYUNG
→ UNIVERSITY OF KYUNGSUNG
→ UNIVERSITY OF KOOKMIN
→ SEOULTECH
→ UNIVERSITY OF DANKOOK

10. SPAIN

→ UNIVERSITY POLYTECHNIC OF MADRID (ETSIA)
→ UNIVERSITY OF PAIS VASCO (BILBAO)
→ UNIVERSITY POLYTECHNIC OF VALENCE

11. UNITED STATES

→ UNIVERSITY OF ARIZONA (TUCSON)
→ UNIVERSITY OF SAN DIEGO, CALIFORNIA

12. BRITAIN

→ UNIVERSITY OF CRANFIELD
→ UNIVERSITY OF SALFORD
→ HERIOT-WATT UNIVERSITY

13. HUNGARY

→ UNIVERSITY TECHNOLOGIC AND ECONOMIC OF BUDAPEST
→ UNIVERSITY OF MISKOLC

14. HONK KONG

→ HONG KONG POLYTECHNIC UNIVERSITY

15. INDIA

→ CHANDIGARH UNIVERSITY
→ HINDUSTAN UNIVERSITY
→ CHITKARA UNIVERSITY
→ UNIVERSITY OF APPLIED SCIENCES OF RAMAIAH
→ SRM UNIVERSITY

16. ITALIA

→ POLYTECHNIC OF TURIN
→ UNIVERSITY OF NAPLES FEDERICO II

17. JAPON

→ GUNMA UNIVERSITY

18. LATVIA

→ RIGA TECHNICAL UNIVERSITY

19. LITUANIA

→ UNIVERSITY OF VILNIUS (VGTU)
→ TECHNICAL UNIVERSITY OF KAUNAS





20. MEXICO

- ✈ UNIVERSITY LASALLE MEXICO
- ✈ AUTONOMOUS UNIVERSITY OF PUEBLA

21. HOLLAND

- ✈ INHOLLAND UNIVERSITY

22. PERU

- ✈ PERUVIAN UNIVERSITY OF APPLIED SCIENCES

23. POLAND

- ✈ WARSAW TECHNOLOGICAL UNIVERSITY
- ✈ UNIVERSITY OF POZNAN

24. PORTUGAL

- ✈ UNIVERSITY OF BEIRA INTERIOR (COVILHA)
- ✈ HIGHER TECHNICAL INSTITUTE OF LISBON
- ✈ UNIVERSITY OF COIMBRA

25. CZECH REPUBLIC

- ✈ TECHNOLOGICAL UNIVERSITY OF OSTRAVA
- ✈ CZECH TECHNICAL UNIVERSITY IN PRAGUE

26. RUSSIA

- ✈ MIPT
- ✈ MOSCOW AVIATION INSTITUTE
- ✈ SAMARA STATE UNIVERSITY AEROSPACE
- ✈ SAINT -PETERSBURG UNIVERSITY OF AEROSPACE

27. ROMANIA

- ✈ BUCAREST TECHNOLOGICAL UNIVERSITY

28. TAIWAN

- ✈ NATIONAL CHENG KUNG UNIVERSITY
- ✈ TAIPEITECH
- ✈ TAIWANTECH

29. THAILANDE

- ✈ UNIVERSITY OF CHULALONGKORN

30. TURKEY

- ✈ ISTANBUL TECHNICAL UNIVERSITY

OPPORTUNITIES & CAREERS

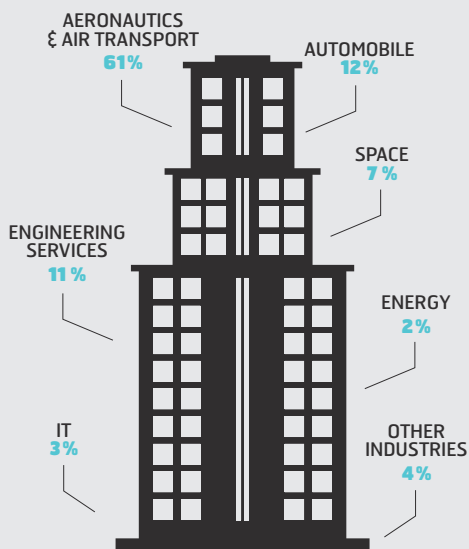
Since its creation more than 50 years ago, IPSA has maintained strong relations with the Aerospace industry. Boosted by a network of Alumni occupying key positions in large companies in the sector, the college is recognized as a reference by professionals.

GEOGRAPHICAL REPARTITION

- PARIS REGION 43%
- TOULOUSE REGION 24%
- PACA 7%
- DOM TOM : 1%
- OTHER REGIONS 14%
- INTERNATIONAL 11%



ACTIVITY SECTORS OF COMPANIES



The World Wide Attitude is one of the flagship values of IPSA. Prepared to be 'open to international' by their studies, 11% of 2015 graduates started their careers abroad, notably in Asia and Europe.

AEROSPACE, A SECTOR FOR THE FUTURE

Arriving in a sector in rapid growth, with full order books for many years, R&D projects multiplying requiring high-level skills, IPSAliens are particularly prized for their operational, managerial and intercultural skills. Anchored in the aeronautics and space sectors their added value is demonstrated by the real professional experience acquired during the studies.

ACTIVITY SECTORS OF GRADUATES

DESIGN - R&D: **42%**
QUALITY - CERTIFICATION - SECURITY: **5%**
INDUSTRIALIZATION - PRODUCTION: **23%**
TESTING: **3%**
OPERATIONS – MANAGEMENT: **16%**
MARKETING - COMMERCIAL: **4%**
MAINTENANCE: **3%**
COMPUTING : **4%**



FEW PARTNERS IN FRANCE AND ABROAD

AIRPORTS OF PARIS
AIR FRANCE
AIRBUS
AIRBUS SAFRAN LAUNCHERS
ALTEN
ALTRAN
ARIANESPACE
AVIATION DESIGN
SPACE CITY
CNES
DAHER AEROSPACE
DASSAULT DS
DASSAULT FALCON SERVICE
FRENCH CIVIL AVIATION AUTHORITY (DGAC)
FRENCH DEFENCE AGENCY (DGA)
EMBRAER
FRENCH AIR FORCE
MESSIER BUGATTI DOWTY
ONERA
PSA
RENAULT
ROLLS-ROYCE
SABENA TECHNICS
SAFRAN
SAFRAN AIRCRAFT ENGINES
SAFRAN ELECTRICAL & POWER
SAFRAN HELICOPTER ENGINES
SAFRAN NACELLES
SAFRAN TRANSMISSION SYSTEMS
SEGULA TECHNOLOGIES
SOGETI HIGH TECH
SOPRA - STERIA
STELIA AEROSPACE
THALES
WIJET

STUDENT LIFE

The passion and the dynamism of IPSAliens materializes through student associations. Whether they are of a cultural, sporting or technical nature, the students lead innovative, sometimes ambitious projects, where technological venture is at stake. Design and launch of rockets or drones, construction of a full size flight simulator for a Boeing 777, pilot training, model airplanes, but also music, team sports, video and many other things..... IPSAliens student life is full of passion.

SOME OF OUR ASSOCIATIONS IN PARIS

- **BDE IPSA:** Animation of student life by the Students Association.
- **Bureau des Sports:** Sports Association
- **Aéro IPSA:** Design and build of experimental rockets.
- **IPSA Technologies:** Design and build of drones.
- **Evolutek:** Robots
- **IPSA Flight:** Construction of a flight simulator for a Boeing 777
- **Mach 0.1:** Flying gliders
- **IPSA KART:** Karting
- **Bureau des Arts:** Cultural events.
- **STUD'ACT:** Humanitarian and solidarity actions

IN TOULOUSE :

- **BDE IPSA:** Animation of student life by the Students Association.
- **Bureau des Sports:** Sports Association
- **IPSA RETRO:** Restoration of old aircraft
- **IPSA Plane:** Piloting of gliders
- **IPSA Hero:** Modeling



PRATICAL INFORMATION

PARIS

Located near the best student city in the world*, the IPSA Paris campus enjoys the economic and cultural dynamism of the French capital.

* British QS ranking



LOCATION

TOULOUSE



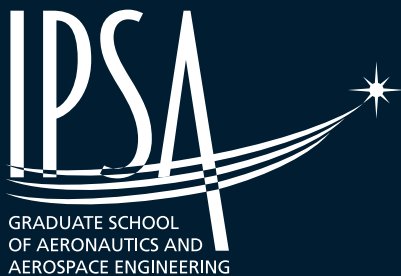
TOULOUSE

The IPSA Toulouse campus enjoys the unique industrial environment of this large aerospace capital.

ACCOMMODATION AND HOUSING AID:

The international office has various contacts with agencies or private owners to help international student to find the perfect place to stay

More information on our website : www.ipsa.fr



POLYTECHNIC INSTITUTE OF ADVANCED SCIENCES

Privately endowed graduate
educational institution

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Download the IPSA application
Available on App Store and Google Play

ABOUT IONIS EDUCATION GROUP :

«Created in 1980 by Marc Sellam, the IONIS Education Group is the first group of private, higher education in France. The 23 schools and entities* of the Group bring together nearly 25,000 students and 65,000 alumni in the fields of business, marketing, communication, management, finance, information technology, digital, aerospace, energy, transport, biotechnology and innovation. The self-defined mission of the IONIS Group is to bring forth new business intelligence today and tomorrow. A strong international scope, attachment to innovation, entrepreneurial spirit, and a veritable 'culture of adaptability and change', these are the main values taught to the future alumni of the IONIS Group - key actors in tomorrow's economy.»

* ISG, ISG Programme Business & Management, Moda Domani Institute, ISEG Marketing & Communication School, ISTH, ICS Bégué, ISEFAC Bachelor, ISEFAC R.H., EPITA, ESME Sudria, IPSA, Epitech, Web@cadémie, Sup'Biotech, e-artsup, Ionis-STM, SUP'Internet, ISEFAC Alternance, ETNA, IONIS UP, Coding Academy, IONISx, IONIS 361.

This school is member of 

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Shaping a new
Business Intelligence