

# Postgraduate Diploma

## Sustainable Air Transport Engineering



## Postgraduate Diploma Sustainable Air Transport Engineering

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/in/engineering/postgraduate-diploma/postgraduate-diploma-sustainable-air-transport-engineering](http://www.techtitute.com/in/engineering/postgraduate-diploma/postgraduate-diploma-sustainable-air-transport-engineering)

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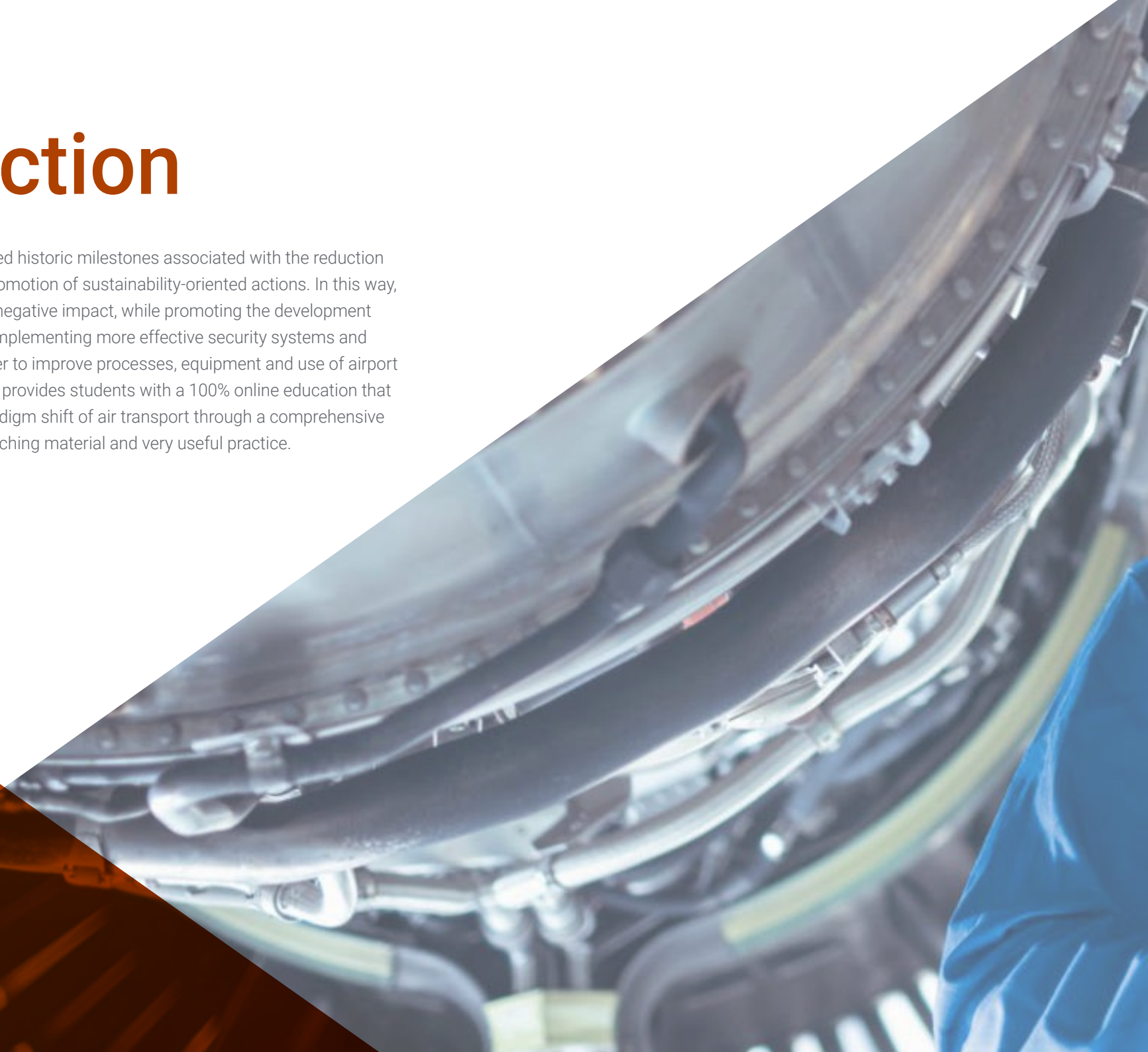
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# 01

# Introduction

In recent years, aviation has achieved historic milestones associated with the reduction of CO2 emissions, as well as the promotion of sustainability-oriented actions. In this way, the sector begins to counteract its negative impact, while promoting the development of innovative air mobility projects, implementing more effective security systems and incorporating advances in AI in order to improve processes, equipment and use of airport infrastructures. In this sense, TECH provides students with a 100% online education that will lead them to delve into the paradigm shift of air transport through a comprehensive content enriched by multimedia teaching material and very useful practice.





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*A 100% online Postgraduate Diploma that will allow you to delve into the main lines of innovation in the aeronautical sector”*

The main areas of innovation in the aeronautical sector today are unmanned aircraft, their safe integration into airspace, autonomous ground support vehicles and traffic control systems. A development that in turn implies the adoption and inclusion of sustainable measures.

Faced with this reality, the engineering professional plays a decisive role in driving the sector through the integration of the most notorious advances and the search for solutions to the new challenges posed by integral sustainability in the industry. In this line, TECH has designed this Postgraduate Diploma in Sustainable Air Transport Engineering of only 6 months duration.

It is a program with an exhaustive and advanced syllabus that brings together over 600 teaching hours, the most current information on the manufacture and maintenance of aircraft, air navigation systems, as well as technological advances applied in the sector. A complete content that will be much easier to acquire thanks to the pedagogical resources provided by this institution.

In addition, with the Relearning method, students will not have to invest many hours of study and memorization time, since this system will allow them to easily consolidate the key concepts.

An ideal academic option for those seeking to progress through a flexible university program, which they can access comfortably, whenever and wherever they wish. All you need is a digital device with an Internet connection to view, at any time of the day, the syllabus hosted on the virtual platform. A first class education, compatible with personal and professional daily activities, that only this academic institution, the largest digital university in the world, offers.

This **Postgraduate Diploma in Sustainable Air Transport Engineering** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Development of case studies presented by experts in Aeronautical engineering
- ◆ Graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Inquire about the most relevant advances in Continuing Airworthiness and Ground Operations”*

“

*TECH adapts to you and that's why it has created a completely flexible university program with content available 24 hours a day”*

*The multimedia pills will be your great allies in this learning process. Access them whenever and wherever you want.*

*An academic option that provides you with the most advanced knowledge about the production phase of an aircraft, flight tests and certification by the Authority.*

The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.



# 02

# Objectives

The purpose of this Postgraduate Diploma is to provide the engineering professional with the most advanced knowledge on sustainable air transport in order to enhance their skills and abilities in this sector. To achieve this goal successfully, the graduates will have at their disposal advanced didactic material, including case studies, which will allow them to verify first hand, situations of great direct application for the design of aircraft and infrastructures with low environmental impact.







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*Renewable energies in airports, zero emission propellers, etc., access to the most advanced information in air transport engineering thanks to TECH”*



## General Objectives

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- ◆ Provide the professionals with the specific and necessary knowledge to perform, with a critical and informed opinion, in any phase of planning, design, manufacture, construction or operation in the various companies of the aviation sector
- ◆ Identify the problems in aeronautical designs and projects in order to know how to propose effective, viable and sustainable overall solutions
- ◆ Acquire the fundamental knowledge of existing technologies and innovations under development in transport systems, in order to be able to conduct research, development and innovation studies in aeronautical companies and technology centers
- ◆ Analyze the main conditioning factors involved in the aeronautical activity and how to efficiently apply the latest techniques used in the aviation sector today
- ◆ Acquire a specialized approach and be able to monitor the management of any aeronautical department, as well as to execute the general management and the technical management of designs and projects
- ◆ Delve into the knowledge of the different critical aeronautical areas according to their different relevant actors, as well as achieve the knowledge, understanding and ability to apply the applicable aeronautical or non-aeronautical legislation and regulations





## Specific Objectives

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### Module 1. Integral Sustainability of Aviation

- ◆ Examine the involvement of aviation stakeholders in integrated sustainability
- ◆ Identify the relevant contents of the three pillars of sustainability in aviation
- ◆ Define the key elements of airport economic-technical sustainability, airport social sustainability and airport environmental sustainability
- ◆ Specify the outline of comprehensive airport sustainability as a model for the rest of the aviation stakeholders
- ◆ Propose and apply integrated solutions for aviation and develop a case study applied to safety

### Module 2. Aircraft Manufacturers and Maintenance

- ◆ Fundamentals of the industry concepts applied in these processes
- ◆ Establish a chronogram of events and decisions
- ◆ Substantiate the actions and decisions taken in each step of the production process
- ◆ Compile data of interest and particularities that occur throughout the process
- ◆ Identify the risks and uncertainties that arise in the different decision making processes
- ◆ Propose to the students the initiative to try to model alternative actions in order to evaluate possible outcomes
- ◆ Analyze whether there is room for substantial improvement in the phases presented

### Module 3. Air Navigation Systems

- ◆ Analyze the evolution of different technologies in the field of navigation
- ◆ Specify the applicability of air traffic surveillance tools
- ◆ Justify the benefits of aviation navigation resources and procedures
- ◆ Determine the significant impact on safety and efficiency derived from the provision of ATS services
- ◆ Evaluate the benefits of airspace management through new models
- ◆ Compile management methods in systems maintenance
- ◆ Examine the significance of information sharing among aviation users
- ◆ Identify trends and impacts of new air navigation systems

### Module 4. Technological innovations and aeronautical operations

- ◆ Examine the different actors involved in the technological development of aviation
- ◆ Identify the main technological developments to improve the sustainability of the aeronautical sector
- ◆ Define new materials and new elements that contribute to technological innovation in the sector
- ◆ Substantiate how digitization processes and artificial intelligence can contribute to the improvement of aeronautical systems
- ◆ Analyze the development and utilities of aerial mobility in our cities
- ◆ Determine the different uses that can be made of airport infrastructures
- ◆ Propose solutions associated with the sector that can be applicable to improving the lives of citizens

# 03

# Course Management

Students who take this Postgraduate Diploma have before them an excellent syllabus prepared by a team of professionals with an experience within the aeronautical sector. Their in-depth knowledge of aircraft manufacturing, fleet maintenance and safety is reflected in a syllabus focused on offering graduates the latest advances in this field and in sustainability. In addition, thanks to the proximity of the teachers, you will be able to resolve any doubts you may have about the content of this course.





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*Consolidated professionals in the aeronautical sector have developed an excellent syllabus that will help you grow as an engineer in this thriving industry”*

## Management



### D. Torrejón Plaza, Pablo

- ♦ Engineering Technician at ENAIRE
- ♦ Head of the Regulatory Unit of the National Airports Autonomous Organization
- ♦ Head of the Analysis Section of the National Airports Autonomous Organization Cabinet of the General Director
- ♦ Head of the Operations Section, Head of the Airport Security Office and Service Executive at Tenerife Sur Airport
- ♦ Head of the Procedures and Organization Section in the Office of the General Director of Aena Airports
- ♦ Head of the Programming Department and in the Office of the President of Aena
- ♦ Head of the Institutional Coordination and Parliamentary Affairs Division
- ♦ Associate Professor and Collaborator in the Aeronautical Management Degree at the Universidad Autónoma de Madrid
- ♦ Head of the Regulatory Unit of the National Airports Autonomous Organization
- ♦ Head of the Analysis Section of the National Airports Autonomous Organization Cabinet of the General Director
- ♦ Head of the Operations Section, Head of the Airport Security Office and Service Executive at Tenerife Sur Airport
- ♦ Master's Degree in Airport Systems from the Polytechnic University of Madrid
- ♦ Master in Organizational Management in Knowledge Economy from the Universitat Oberta de Catalunya (Open University of Catalonia)
- ♦ Master's Degree in Executive MBA from the Instituto de Empresa in Madrid
- ♦ Aerospace Engineer from the University of León
- ♦ Aeronautical Technical Engineer by Universidad Politécnica de Madrid
- ♦ Aeronautical Manager from the Autonomous University of Madrid
- ♦ Honorary decoration "Alférez Policía Nacional del Perú Mariano Santos Mateos gran General de la Policía Nacional del Perú" for exceptional services in aeronautical consultancy and training

## Professors

### D. Fernández Domínguez, Manuel

- ◆ Technician in ENAIRE E.P.E. in the CNS/ATM Operational Safety Area. ACC MADRID. Regional Directorate of Air Navigation Center-North
- ◆ Technician in the area of Short/Medium and Long-Range Fleet Maintenance and in the area of Aircraft Assistance for Iberia at Adolfo Suarez Madrid-Barajas Airport
- ◆ Technician in the Operations Area at Palma de Mallorca Airport and Josep Tarradellas Barcelona-El Prat Airport
- ◆ Lecturer in the Aeronautical Management Degree at the Autonomous University of Madrid
- ◆ AVSAF Instructor certified by AESA
- ◆ Degree in Tourism from the Autonomous University of Madrid
- ◆ Master's Degree in Aeronautical Management from the Autonomous University of Barcelona

### D. Torres Pinilla, Eduardo

- ◆ Airport infrastructure works manager at Aena network facilities
- ◆ Inspector with the rank of team leader, assigned to the State Aviation Safety Agency (AESAs), in the Airport Inspections Division (DIA)
- ◆ Engineer in the Projects and Constructions Section (SEPCO) of the Air Force Engineering and Infrastructures Directorate (DIN)
- ◆ Head of Department at the General Technical Secretariat of the Urban Development Area of the Madrid City Council
- ◆ Associate Professor in the Department of Business Organization, University Autonomous of Madrid
- ◆ Aerospace Engineer from the University of León
- ◆ Aeronautical Technical Engineering in Airports, Universidad Politécnica de Madrid
- ◆ Advanced Unmanned Aircraft Pilot License CNT/RPA/P/33-16
- ◆ Air Safety State Agency qualification for Airport Inspection

### D. Morante Argibay, Antonio

- ◆ Airport Services Technician at Madrid Barajas Airport
- ◆ Responsible for operations and maintenance of telescopic fingers gangways at Madrid Barajas Airport
- ◆ Responsible for maintenance production of complex civil aircraft for air parcels: Aircraft: Boeing, Convair, Embarer, Cessna, Fairchild
- ◆ Responsible for maintenance of civil aircraft. Turbine, turboprop and propeller-driven internal combustion engines. Multi-turbine turbine and internal combustion engine helicopters. Aircraft: Cessna, Piper, Bell, Aeroespatale (now Airbus), Robinson
- ◆ Responsible for maintenance and repair of aircraft interiors
- ◆ Continuing Airworthiness Officer (CAMO) for civil aircraft (airplanes and helicopters)
- ◆ Project commissioner for the acquisition and maintenance of combat helicopters for the Spanish Army (FAMET)
- ◆ Responsible for landing gear overhaul maintenance for Airbus civil aircraft. Trains: Airbus A320 (family) and Airbus A330 / A340 fleets
- ◆ Manufacturing Engineer for military air refueling and multi role aircraft
- ◆ Professor of the Master's Degree in Aviation Safety and Aircraft Maintenance at the Colegio de Ingenieros Técnicos Aeronáuticos de España (Association of Aeronautical Technical Engineers of Spain)
- ◆ Graduate in Aeronautical Technical Engineering from the Polytechnic University of Madrid
- ◆ Graduate in Aerospace Engineering from the Polytechnic University of León

# 04

# Structure and Content

In an era marked by sustainability, the industry is moving forward by implementing the latest technology to reduce emissions in aircraft, ground handling equipment and airport infrastructures. A wide field of action that is reflected in this advanced syllabus to which students will have easy access, 24 hours a day, 7 days a week. Moreover, thanks to the *Relearning* method, you will be able to progress naturally through the syllabus, consolidating the new concepts and reducing the hours of study.







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*The Relearning method will allow you to acquire intensive learning on sustainable Air Transport in a much more agile way”*

## Module 1. Integral Sustainability of Aviation

- 1.1. Cross-border vocation of aviation in its development
  - 1.1.1. Development and evolution of civil aviation
  - 1.1.2. ICAO as a regulatory actor and internationalization
  - 1.1.3. IATA coordination actor for airlines
- 1.2. Flag carriers and air transport agreements between countries
  - 1.2.1. From sport and general aviation to national strategic operators
  - 1.2.2. Intentional agreements between countries for commercial air transport
  - 1.2.3. The freedoms of the air
- 1.3. 20th Century: Own, Western or Eastern aircraft
  - 1.3.1. From national manufacturers to two duopolies and some state-owned giants
  - 1.3.2. The fastest or the largest
  - 1.3.3. New management models: manufacturer, maintainer and financier
- 1.4. Airline alliances, EUROCONTROL, AIRBUS and international airport concessions
  - 1.4.1. Airlines: from agreed route sharing, to competition and/or integration
  - 1.4.2. Alliances in European aviation favored by supranational integration
  - 1.4.3. From airports in a national network to groups with international concessions
- 1.5. Physical globalization: Navigating the sea and Virtual, navigating the network
  - 1.5.1. The adventure of navigating the earth in "both" directions
  - 1.5.2. Magellan and El Cano
  - 1.5.3. The "global village"
- 1.6. From green to integral sustainable development
  - 1.6.1. Ecologism
  - 1.6.2. Integral sustainable development
  - 1.6.3. SDGs and Agenda 2030
- 1.7. Comprehensive global and sustainable aviation
  - 1.7.1. Multinational and global aviation organizations
  - 1.7.2. Positive and negative impacts of aviation and on aviation
  - 1.7.3. The airport as a hub for the concentration of all aviation stakeholders

- 1.8. Economic-technical sustainability of aviation
  - 1.8.1. We are all "low cost", some are "low cost"
  - 1.8.2. Economic income for all and also social income for the "public"
  - 1.8.3. ICAO. Generator of global technical standards
- 1.9. Social sustainability of aviation
  - 1.9.1. Generators of connectivity, wealth and employment
  - 1.9.2. From access for tourism to enabling emergency assistance
  - 1.9.3. Public dissemination of positive impacts unknown to society
- 1.10. Environmental sustainability of aviation
  - 1.10.1. Efficiency in consumption and reduction of acoustic and gaseous emissions
  - 1.10.2. Suppression, attenuation and compensation of negative impacts
  - 1.10.3. Aviation commitment and involvement to reduce carbon footprint

## Module 2. Aircraft Manufacturers and Maintenance

- 2.1. Market Analysis and Customer Conditions
  - 2.1.1. Request for Information (RFI)
  - 2.1.2. Manufacturer analysis
  - 2.1.3. Request for Purchase Order (RFP)
- 2.2. Design Organization
  - 2.2.1. Structure of a design organization
  - 2.2.2. Design phases and certification specifications
  - 2.2.3. Systems Analysis
- 2.3. System Concurrency
  - 2.3.1. Motors and stand-alone power unit
  - 2.3.2. Landing gears
  - 2.3.3. Other on-board systems



- 2.4. Industrialization
  - 2.4.1. Structure of a production organization
  - 2.4.2. Phases of production
    - 2.4.2.1. Drawings and assembly instructions
    - 2.4.2.2. Installation and assembly on aircraft
    - 2.4.2.3. Functional ground tests
    - 2.4.2.4. Flight Tests
  - 2.4.3. Certification phase with the Authority
    - 2.4.3.1. Submission of documentation and reviews
    - 2.4.3.2. Ground tests
    - 2.4.3.3. Flight tests and certification flights
    - 2.4.3.4. Issuance of Aircraft Type Certificate (TC)
  - 2.4.4. Customer delivery phase and (ToT)
  - 2.4.5. Media design and subcontracting
- 2.5. Continuing Airworthiness and Operation
  - 2.5.1. Continuous airworthiness
  - 2.5.2. Manuals and technical assistance services
  - 2.5.3. Operation
    - 2.5.3.1. In-flight operations
    - 2.5.3.2. Ground operations.Handling
- 2.6. Continuing Airworthiness Management Organization
  - 2.6.1. Air Operators (AOC)
  - 2.6.2. Continuing Airworthiness Maintenance Organizations (CAMO)
    - 2.6.2.1. Structure and Legislation
    - 2.6.2.2. Responsibilities and Programs
  - 2.6.3. Maintenance contracts
- 2.7. Aircraft Maintenance Program
  - 2.7.1. Documentary Bases
  - 2.7.2. Approval and updating of programs
  - 2.7.3. Compliance with specific air operation approvals

- 2.8. Aircraft Maintenance Organizations
    - 2.8.1. Structure and Legislation
    - 2.8.2. Technical capabilities and approvals
    - 2.8.3. Capabilities and designations
      - 2.8.3.1. Boroscopic inspections
      - 2.8.3.2. Non-destructive testing of materials and structures
  - 2.9. Critical Tasks
    - 2.9.1. Scheduled maintenance
    - 2.9.2. Special approvals
    - 2.9.3. Unwanted Objects (FO) AND (FOD)
  - 2.10. Maintenance of Systems and Components
    - 2.10.1. Verification of equipment on bench
    - 2.10.2. Overhaul
      - 2.10.2.1. Engine hot sections
      - 2.10.2.2. Oil spectrometry
      - 2.10.2.3. Fuel contamination analysis
    - 2.10.3. Civilian fleets and military fleets
- Module 3. Air Navigation Systems**
- 3.1. Air Navigation Systems
    - 3.1.1. Air Navigation Key Concepts
    - 3.1.2. CNS/ATM System. Key concepts
    - 3.1.3. Air Navigation Services
  - 3.2. Aeronautical Communications Systems: From the sea to the air
    - 3.2.1. Communications systems and services
    - 3.2.2. Aeronautical Fixed Service
    - 3.2.3. Aeronautical Mobile Service
    - 3.2.4. Future of Aeronautical Communications
  - 3.3. Navigation Systems: Precision
    - 3.3.1. Autonomous Systems
    - 3.3.2. Non-Autonomous Systems
    - 3.3.3. Augmentation Systems
  - 3.4. Surveillance Systems. Traffic monitoring tools
    - 3.4.1. Surveillance functions and systems
    - 3.4.2. Contribution of radar to the development of aviation
    - 3.4.3. Dependent surveillance (ADS): Rationale and application
    - 3.4.4. Multilateration: Advantages and applications
  - 3.5. Extension of flight paths through Area Navigation
    - 3.5.1. The PBN concept
    - 3.5.2. RNAV/RNP relationship
    - 3.5.3. Advantages of the PBN concept
  - 3.6. AFTM Management
    - 3.6.1. Principles of AFTM in Europe
    - 3.6.2. Traffic flow management: need for centralization and objectives
    - 3.6.3. ATFCM-CFMU Systems and their phases
  - 3.7. ASM Service - Airspace Management
    - 3.7.1. ASM Service: the FUA (airspace flexibility) concept
    - 3.7.2. Levels of airspace management and structure
    - 3.7.3. Airspace management tools
  - 3.8. ATS services: Air traffic safety and efficiency
    - 3.8.1. Background of air traffic control
    - 3.8.2. Air traffic control service
    - 3.8.3. FIS/AFIS Information Service
    - 3.8.4. Flight Progression Tab: From token bay to OSF
  - 3.9. Other ATS services: MET and AIS
    - 3.9.1. The meteorological service: Products and their distribution
    - 3.9.2. AIS Service
    - 3.9.3. ATS service messages: Formats and transmission
  - 3.10. Current and future situation: Impact of the new CNS/ATM systems
    - 3.10.1. New CNS systems
    - 3.10.2. Benefits and implementation
    - 3.10.3. Foreseeable direction of the Air Navigation Systems

## Module 4. Technological Innovations and Aeronautical Operations

- 4.1. Unmanned Aircraft Systems (UAS)
  - 4.1.1. Historical evolution of unmanned aircrafts
  - 4.1.2. Unmanned Aircraft Typology
  - 4.1.3. Industry and main unmanned aircraft manufacturers
- 4.2. Urban Air Mobility (UAM)
  - 4.2.1. Mobility of the future in cities
  - 4.2.2. Integration of unmanned aircraft into conventional airspace
  - 4.2.3. Innovative urban air mobility projects
- 4.3. Innovative infrastructures for unmanned aircraft
  - 4.3.1. Operational infrastructures
  - 4.3.2. Control centers for unmanned aircraft
  - 4.3.3. Unmanned aircraft anti-intrusion systems
- 4.4. New air traffic control systems
  - 4.4.1. Remote control tower technology
  - 4.4.2. Major developers of remote tower technologies
  - 4.4.3. Pioneering NA service providers in the use of remote towers
- 4.5. New sources of aircraft propulsion
  - 4.5.1. Electric propulsion systems
  - 4.5.2. Hydrogen propulsion systems
  - 4.5.3. PAS propulsion systems
- 4.6. Innovation in operational procedures
  - 4.6.1. Conventional approach procedures
  - 4.6.2. Trombone approach procedures
  - 4.6.3. Point Merge System approach procedure
- 4.7. Technologies applicable to airport security
  - 4.7.1. Automated Border Control Posts (ABC)
  - 4.7.2. Implementation of biometric systems
  - 4.7.3. Security information management platforms (MISP)
- 4.8. Innovations in ground handling equipment
  - 4.8.1. Services to aircraft through tunnels with retractable platform sockets
  - 4.8.2. ZERO emission propulsion handling vehicles
  - 4.8.3. Artificial intelligence in the improvement of passenger and aircraft assistance processes
- 4.9. Airports and renewable energies
  - 4.9.1. Renewable energies applicable to airport infrastructures
  - 4.9.2. Management of sustainable airports (Net-Zero 2050)
  - 4.9.3. Airports as an energy solution for their environment
- 4.10. Innovations in the use of airport infrastructures
  - 4.10.1. Airports as aircraft parking aprons
  - 4.10.2. Airports for aircraft maintenance and recycling
  - 4.10.3. Airports as a platform for space launches



*An academic option that focuses on innovations in the use of airport infrastructures and sustainability”*

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# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





“

*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

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*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*





*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“*Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



### Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



06

# Certificate

The Postgraduate Diploma in Sustainable Air Transport Engineering guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.



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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

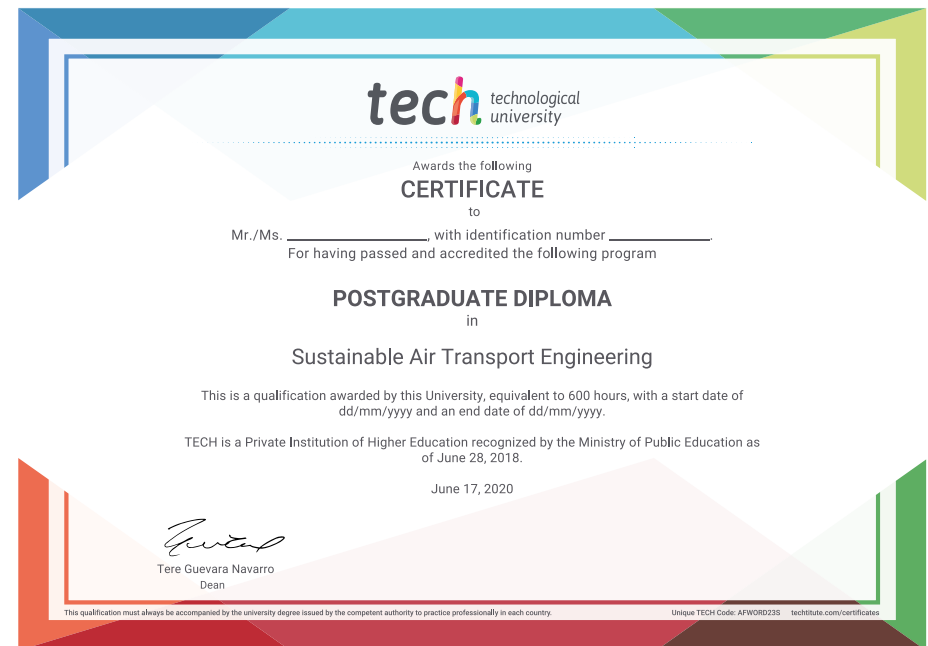
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# Postgraduate Diploma Sustainable Air Transport Engineering

