Master's Degree
Aeronautical Engineering

tech global university

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Master's Degree
Aeronautical Engineering

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/master-degree/master-aeronautical-engineering**

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01

Introduction

Aviation has always been associated with technological advances, globalization and, in recent decades, sustainability. Three axes that present numerous advances, visible in aeronautical design and in the management of airport projects. Thus, this set of actions requires in-depth knowledge on the part of engineering professionals who wish to develop successfully in this sector and not be left behind in a thriving industry. In this line, TECH has designed this program, which offers the opportunity to acquire specialized teaching on navigation systems, international aviation law, the main actors in aviation or the manufacture and maintenance of aircraft. All in a 100% online format and with the most innovative multimedia content.

Enroll now in a university program that responds to your professional motivations and growth in the aviation sector"

From the reduction of greenhouse gas emissions, the improvement of safety measures, to the technological development of unmanned aircraft and their integration into the airspace make up the great challenges of the aeronautical sector.

For this reason, the professional engineers who wishes to prosper in this industry must have a global knowledge of its operation, as well as specialized knowledge of the elements of manufacturing, design and commissioning of both aircraft and airports. A complete knowledge that will be much easier to acquire thanks to this Master's Degree in Aeronautical Engineering created by this institution.

An intensive program that consists of a syllabus that has been prepared by an excellent team of professionals dedicated to this industry. Their technical and teaching experience is reflected in a syllabus that covers technological innovations and aeronautical operations, deepens in the main actors of the sector, continued airworthiness, comprehensive sustainability and the entire international regulatory framework.

Students will obtain this learning through advanced content, complemented by video summaries of each topic, detailed videos, specialized readings and simulations of case studies that can be accessed comfortably, whenever and wherever they wish.

To take this program, the graduates only needs a digital device with an Internet connection to visualize, at any time of the day, the syllabus hosted on the virtual platform. A unparalleled academic option that only TECH, the world's largest digital university, can offer.

This **Master's Degree in Aeronautical 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

A 12-month Master's Degree in Aeronautical Engineering that adapts to your schedule"

Thanks to the Relearning system, you will acquire an effective learning experience far from the long hours of study. Enroll now"

The case studies will allow you to obtain a real analysis of the regulations in which the main actors of air transport operate.

With this university program you will be up to date in the measures applied for the efficiency and reduction of acoustic and gaseous emissions in aviation.

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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

02

Objectives

This Master's Degree provides students with the necessary knowledge to provide technical solutions to aeronautical designs and projects, with a view to improving sustainability, safety and compliance with current regulations. To achieve this goal, TECH provides an exhaustive syllabus prepared by an excellent team of specialists in the sector, who are also responsible for answering any questions you may have about the content of this university education.

Get specialized learning about the manufacturing, design, planning, construction or operational phases of the various companies in the aviation industry"

General Objectives

- 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

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. Aviation Law: Regulation, Actors and Control Systems

- Develop the normative impulse that the Chicago Convention meant and its impact on the international community, which has manifested itself over the course of time as one of the great and scarce normative successes in the creation of standards of International Law
- Examine the issues of preferential attention in the regulation of the European Union in view of its objectives as a union of States aiming at economic integration based on the opening and liberalization of the different markets of products and services in the container and in its global relations with third parties (Single European Sky)
- Identify the issues that remain in the hands of the States and their specific regulations with their various levels, with particular reference to security issues
- Describe the different operators in the world of aeronautical management with their rules and interests, often contradictory, and check the functioning of the markets in which these companies operate under the supervision of their institutions
- Evaluate the coexistence of general and sectoral standards, especially in the cases of competition law, users' rights, environmental constraints and safety standards

- Specify the a priori and a posteriori control mechanisms maintained by States or national bodies to check the efficiency of management, the optimization of investments and the absence of monopolistic or discriminatory attitudes
- Propose future challenges for the management of European airports in particular
- Examine in depth the possible development of existing European Directives, the deepening or not of liberalized management, the coexistence of interests between airlines and airport managers
- Investigate the financing and continuity of the substantial investments in infrastructures, the flexible regulation in crisis situations or the limit on pollutant emissions as an objective brake on aeronautical activities

Module 3. Air transportation: Economics and management in the global marketplace

- Identify how aviation is integrated into the transportation system, as well as the various forms of cooperation in the environment
- Examine the various factors involved in the air transport system: manufacturers, airlines, and air navigation service providers
- Analyze the air transport system, its integration, competition and cooperation with intermodal mode
- Evaluate the contemporary social reality using macroeconomic and air environment tools
- Determine the technical characteristics of air transport modes
- Contextualize relevant information from the physical or business contexts
- Propose mechanisms for interpreting the solutions identified

Module 4. Protection of the Airport and its surroundings: Integration of Evolutionary Models

- Recognize the different aerodromes according to their environment
- Identify the physical factors that condition the design of the infrastructure and the development of the activity
- Identify the risks generated by the airport on its environment and vice versa
- Specify the international regulatory framework for the protection of the airport and its surroundings
- Define aerodrome easements and justify their necessity in terms of operations
- Define external easements and justify their necessity based on the environment
- Establish the basis of the easement surveillance system
- Define the coordination mechanisms of the stakeholders involved in the validation of the various airport infrastructure development proposals
- Characterize intermodal development and coordination
- Present the evolution of airport models, based on the facilitation of new technologies

Module 5. Security, Security against Unlawful Acts against Civil Aviation, AVSEC

- Examine national and international regulations
- Identify the most important aspects of implementing security measures
- Determine the various ways of reducing operational impact
- Analyze the human and material means used in the implementation of security measures
- Defining the safety culture and how to promote it
- Define how to ensure quality in the implementation of safety measures
- Propose how to integrate security into the daily operations of airports and airlines

Module 6. Airport strategy and commissioning of a new airport

- Examine the structure of the airport industry, as well as its operating environment
- Identify the functional elements of the airport infrastructure
- Analyze airport business and strategic planning in airports
- Generate specialized knowledge on the key concepts associated with traffic demand analysis and airport capacity calculation
- Establish measures to avoid airport congestion
- Planning the treatment of stakeholders involved in airport operations
- Understand the airport certification process
- Establish the framework for airport economic regulation
- Develop the operational transition process for new infrastructures

Module 7. 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 8. Aircraft Propulsion Plants

- Fundamentals of the history of the development of aircraft engines
- Analyze the most important components of these propulsion plants
- Generate mathematical models for the calculation of the different engines
- Evaluate engine performance with these models and perform a comparative analysis
- Identify the most important problems and advantages of each powerplant
- Present the basis for the future evolution of these engines

Module 9. 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 10. 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

Skills

The syllabus of this university program has been conceived with the objective of offering students a global vision of Aeronautical Engineering, enhancing their capacities for the analysis of the sector, the international regulations in force and all the elements that influence airport management and team coordination. In this way, the graduate will broaden his or her skills to be able to perform his or her functions in international aeronautical sector contexts.

A university program that will bring you up to date with the advances in the use of alternative fuels in aeronautical engines"

General Skills

- Acquire skills to perform successfully in different departments of any aeronautical company, such as planning, design, project, construction, operations, maintenance, service provision, staff and consulting
- Be able to perform various executive functions, team management and technical management of research, development and innovation projects in aeronautical companies, organizations and technology centers
- Analyze the latest technical and general regulations applicable to the aviation sector
- Be able to integrate complex aeronautical systems and coordinate the required multidisciplinary work teams
- Be able to integrate social responsibility and respect for the environment in the sustainable development of their professional activities

Specific Skills

- Analyze problems in the aviation sector specific to each of the main players and their coordination among themselves or with external parties
- Make a detailed presentation of the overall specificities of the main aviation stakeholders, updated with the latest applicable regulatory review
- Analyze the relevant cross-cutting areas that apply within the aviation sector, such as integral sustainability, security against illegal acts, relevant external impacts
- Acquire a specialized approach and be able to monitor the management of any aviation department
- Be able to work in international aviation sector contexts

Amplify with TECH your capabilities to integrate complex aeronautical systems and coordinate multidisciplinary work teams"

04

Course Management

TECH maintains a philosophy based on providing all students with quality education. Thus, students who take this academic proposal will have before them, a management and teaching staff that has been selected based on its consolidated professional career within the aviation sector. In this way, this academic institution guarantees the graduates the obtaining of an advanced learning from the hand of real experts.

Acquire a high level of learning with a specialized teaching staff that will lead you to learn about the current challenges of airport management"

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

Dr. De Alfonso Bozzo,Alfonso

- Senior Consultant in aeronautical and airport matters at Cognolink, GLG
- Aeronautical and Airport Management, with responsibility in the areas of Human Resources Development, Commercial and Internal Audit at Aena
- Director of Barcelona Airport
- Professor in Master's Degree programs and Specialization Courses in airport management
- Doctor in Law from the Autonomous University of Barcelona (UAB)
- Law Degree from the University of Santiago de Compostela (UAB)
- Member of Spanish Association of Aeronautical and Space Law

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 (AESA), in the Airport Inspections Division (DIA)
- Engineer in the Projects and Constructions Section (SEPCO) Management and the 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

Dr. Rodríguez Sanz, Álvaro

- Aeronautical Operations and Services Technician in the Direct and Special Plans Division of Aena's Airport Planning and Regulatory Control Directorate
- Engineer and project manager at ENAIRE's air traffic management research and development subsidiary (CRIDA)
- Participant as researcher in European Union projects associated with the Horizon 2020 program
- Strategic planning and route and market development analyst for LATAM airline
- Consultant engineer for airport and air transport projects at INECO, a company attached to the Ministry of Transport, Mobility and Urban Agenda
- Associate Professor, Department of Aerospace Systems, Transportation
- Aeronautics and Airports of the Polytechnic University of Madrid
- PhD in Aerospace Engineering from the Polytechnic University of Madrid
- Master's Degree in Airport Planning and Management, Cranfield University
- Winner of the Madrid City Council Talent and Technology Award, 2022 edition, for the best doctoral thesis in the Research and Technological Development category
- Winner of the Luis Azcárraga Award of the XXV edition of the ENAIRE Foundation Awards, call 2020, in recognition of research and technological innovation in aerospace matters
- Winner of the Aeronautical Innovation Award 2020 of the Official College of Aeronautical Engineers of Spain (COIAE)

D. Casas Guillén, David

- Head of Engineering and Maintenance Department of Fuerteventura Airport
- Head of the Airport Security Department at Fuerteventura Airport
- Head of the Visual Aids Department in the Infrastructures Directorate at Aena Central Services
- Head of the Electrical Engineering and Electronics Section in the Infrastructures Directorate at Aena Central Services
- Director of Projects and Works in the Infrastructure Directorate at Aena Servicios Centrales
- Team Leader for Aerial Delivery tests, A400M program (Airbus Military)
- Lecturer in the Master's Degree in Air and Airport Company Management
- Degree in Aeronautical Engineering from the Polytechnic University of Madrid

Dr. Arias Pérez, Juan Ramón

- Aeronautical engineering researcher
- Principal investigator of public and private projects such as *Homogeneous Charge Compression Ignition for Aeronautical Engines (UPM), Development of advanced cooling systems for onboard electronics (Airbus EYY), GALOPE: Transversal Galoping effects to produce Electricity (Repsol) or Advanced Cooling Systems for onboard electronics* (Indra)
- Professor at the Department of Fluid Mechanics and Aerospace Propulsion of the ETSI Aeronautics and Space
- Aerospace Propulsion of the ETSI Aeronautics and Space ETSI
- Associate Professor in the Department of Motopropulsion and Thermofluidodynamics of the ETSI Aeronautics and Space
- PhD in Aeronautical Engineering from the Polytechnic University of Madrid
- Aeronautical Engineer from the Polytechnic University of Madrid

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. Leal Pérez Chao, Rafael

- Specialist in Air Navigation Service Providers
- Expert in Implementation of Cost and Management Control Systems projects, Project Management and ERP Systems Integration and coordination of Institutional Relations Areas
- Associate Professor at the Autonomous University of Madrid
- Participated in several teaching innovation projects in the last ten years, highlighting those of professional *coaching*, rubrics and academic support
- Degree in Economics and Business Administration from the Complutense University of Madrid
- Certificate of Pedagogical Aptitude from the Complutense University of Madrid
- Master's Degree in Financial Management from ESIC
- Superior Technician in Occupational Risk Prevention: specialties in Occupational Safety, Industrial Hygiene and Ergonomics and Applied Psychosociology

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, Aeroespatiale (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

D. Sanz Dodero, José

- Head of Aena's Safety Regulations Department
- Head of Aena's Safety Division
- Head of the Airline Service Division of the Adolfo Suarez Madrid-Barajas Airport
- Head of the Management Office of the Adolfo Suarez Madrid-Barajas Airport
- Head of the Services Division, Adolfo Suarez Madrid-Barajas Airport
- Deputy Director of Adolfo Suarez Madrid-Barajas Airport
- Director of Security at the Ministry of the Interior
- Strategy Management and Planning at the University of Deusto
- International Consultant for New Slot Policy for El Salvador Airport; ORAT Project in Panama; DGAC Bolivia Transport Project or ACDM definition for Lima Airport, Peru
- AVSEC, IATA, ICAO trainer
- IATA courses in Emergency Management, Airport Certification, Airport Operations Management and Airport Facilitation
- Aeronautical Engineer from the Polytechnic University of Madrid
- Order of Merit of the Civil Guard with white badge
- Cross of Police Merit with white badge
- Commendation of Merit of Isabel la Catolica

05

Structure and Content

The syllabus of this Master's Degree has been designed to offer the engineering professionals the latest advances in the field of aviation. Innovation in the technological field, sustainability, manufacturing or regulation will be addressed throughout the 12 months of this university program. To achieve this learning, the graduates also have a Virtual Library, accessible 24 hours a day, from any electronic device with Internet connection.

A syllabus that stands out for its innovative and comprehensive teaching material on current Aeronautical Engineering"

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. The 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. Aviation Law: Regulation, Actors and Control Systems

2.1. International aviation regulation
- 2.1.1. International regulation of Aviation Law Description and general characteristics
- 2.1.2. ICAO as a Source of Air Law: Types of Source and Their Value: International conventions, technical instructions and recommendations
- 2.1.3. Content of the ICAO regulatory framework: description of the international framework, airspace structure, service management, aeronautical personnel, environment and safety

2.2. European development of air law
- 2.2.1. European aviation regulatory framework. Gestation process: liberalization of services, competition in the market and Single European Sky (1987)
- 2.2.2. The main Directives and their content: access to markets and airlines, ground handling, airport slots and airport charges
- 2.2.3. The current "European Aviation Strategy" (2017)

2.3. European regulation of the economic management of airports: Directive 2009/12/EC
- 2.3.1. The European Pricing Directive: content, development and revision
- 2.3.2. Positions of the actors of the system in the face of a possible reconsideration of the Directive
- 2.3.3. Air traffic system charges

2.4. Rationale and issues of national regulations in aviation law
- 2.4.1. Aeronautics as the basis of State Sovereignty
- 2.4.2. Aeronautical development in the States
- 2.4.3. Aviation safety control

2.5. Different players in the aeronautical services market. Management model
- 2.5.1. The subjects of the air transport system: institutional actors and commercial companies Conditions for action: coexistence of regimes and forms of action
- 2.5.2. General and sector regulations, impact of competition law and private regulations in a sector with a public component
- 2.5.3. Characteristics of the European model of airport management. The management of airport networks. Other aeronautical services and their managers

2.6. The concession as a general framework for airport management
- 2.6.1. Basis for the entry of non-institutional managers: Concession contract, management agreement or entrustment
- 2.6.2. Detailed analysis of the airport concession: issues, forms and obligations of the parties
- 2.6.3. Management through program-contracts: content and limits

2.7. Economic activities at airports: revenues and management indicators
- 2.7.1. Economic activities at airports: Self-sufficiency of the system
- 2.7.2. Aeronautical and commercial revenues. Economic regime
- 2.7.3. Efficiency as a measure of management. Management Indicators

2.8. Control systems and areas of supervision
- 2.8.1. Forms of control that go beyond the interventionist system. Control in operation and investment. Security controls. Economic control through program-contracts
- 2.8.2. Control through independent agencies: the European system of ISAs. Its relationship with competition supervision mechanisms. A European example
- 2.8.3. Alternatives to intervention: self-regulation through bilateral airport services contracts

2.9. Airlines and system resources
- 2.9.1. The economic resources of the system and how they are managed. The role of the airlines as controllers
- 2.9.2. IATA-ACI (2016) positions and discussions on airport competition
- 2.9.3. Investment planning, development and financing processes

2.10. Current situation and challenges of airport economic management
- 2.10.1. Reconsideration of the regulated economic system at European airports
- 2.10.2. State of the art of the airport services market
- 2.10.3. The current challenges of post-pandemic airport management

Module 3. Air transportation: Economics and management in the global marketplace

3.1. Transport economics framework, principles, efficiency and productivity
- 3.1.1. Transport as a large system. Evolution and typologies
- 3.1.2. Principles of transport economics
- 3.1.3. Intermodal transport: weaknesses, strengths, value of time

3.2. Institutional and regulatory environment
- 3.2.1. Structure of international air transport, global characteristics of the private environment
- 3.2.2. International Agreements
  - 3.2.2.1. Multilateral and bilateral agreements
  - 3.2.2.2. Traffic rights, responsibilities
- 3.2.3. Unique characteristics of commercial aviation

3.3. Air Transport Companie
- 3.3.1. Company concepts, the value chain in air transport
- 3.3.2. Typology of airlines
  - 3.3.2.1. Regional, network, charter, operators and integrators
- 3.3.3. Air cargo, operational modalities

3.4. Cost, revenue and profit and loss management in a transport company
- 3.4.1. Description, measurement and allocation of producer and user costs
- 3.4.2. Revenues
  - 3.4.2.1. Pricing and charging
  - 3.4.2.2. Management performance
- 3.4.3. Industry value chain and geographic impact

3.5. Air transport: the market
- 3.5.1. Demand and supply
- 3.5.2. Market structure
- 3.5.3. Air transport magnitudes and their impact on society

3.6. Infrastructure management
- 3.6.1. Investment in infrastructure. Investing in capacity
- 3.6.2. Economic factors in investment evaluation
- 3.6.3. Risk and cost-benefit analysis. Decision Making

3.7. Implications and consequences of air transport
- 3.7.1. Effects on global development: global economy versus regional economy
- 3.7.2. Extent of the "footprint" of air transport, consequences on other sectors
- 3.7.3. Congestion and safety in air transport

3.8. Elements integrating the transport system, cooperation required
- 3.8.1. Logistics Operators
- 3.8.2. International Aviation Safety Agencies
  - 3.8.2.1. Commercial air transport operations
- 3.8.3. Integration of the elements
  - 3.8.3.1. Airlines, administrators, air navigation service providers

3.9. Prospective trends
- 3.9.1. Air transport in the 21st century. Liberalization trends
- 3.9.2. Evolution of low cost and alliances
- 3.9.3. Analysis of the future: short and medium term forecasts

3.10. Global market configuration
- 3.10.1. International air navigation service providers: EUROCONTROL, COCESNA, CANSO
- 3.10.2. Global market players: ICAO, WCO, UPU, UNDOC, IATA, ACI, Major operators
- 3.10.3. Cargo Aircraft vs. *Belly Freight*

Module 4. Protection of the Airport and its surroundings: Integration of Evolutionary Models

4.1. The airport system. Global conception
- 4.1.1. Evolution of the airport system concept
- 4.1.2. Classification of aerodromes according to their environment
- 4.1.3. Feasibility of adaptation to the environment

4.2. Airport design. Conditioning physical factors
- 4.2.1. Orography and geology
- 4.2.2. Climatological factors
- 4.2.3. Environmental factors

4.3. Regulatory Framework
- 4.3.1. Main regulatory agencies
- 4.3.2. Environmental regulation
- 4.3.3. Easement regulation

4.4. Protection of airport operations
- 4.4.1. Radio-electric easements
- 4.4.2. Aerodrome easements
- 4.4.3. Operational easements
- 4.4.4. Obstacle free zones

4.5. Protection of the airport system environment
- 4.5.1. Environmental Protection
- 4.5.2. Noise Protection Noise maps and acoustic easements
- 4.5.3. Maritime airport environments
- 4.5.4. Strategic environmental statements/documents

4.6. Characterization of the risks to sustainable and coordinated development
- 4.6.1. Operational risks
- 4.6.2. Environmental risks
- 4.6.3. Economic risks

4.7. The monitoring of easements
- 4.7.1. Actors involved and functions
- 4.7.2. Surveillance mechanisms
- 4.7.3. Limitation of activities
- 4.7.4. Coordination mechanisms

4.8. Intermodal coordination
- 4.8.1. Evolution of intermodality
- 4.8.2. Modal spaces
- 4.8.3. Coordination with surface transport

4.9. Socio-economic impact
- 4.9.1. Characterization of the global impact of aviation on society
- 4.9.2. The role of international associations in global development
- 4.9.3. Local impact. Coordination committees: airport-environment

4.10. Future challenges in airport development
- 4.10.1. Operational constraints and traffic growth
- 4.10.2. The present and rise of UAVs and the surveillance of easements
- 4.10.3. The risks of urban and aeronautical innovations
- 4.10.4. Adaptation of the Regulatory Framework

Module 5. Security, Security against Unlawful Acts against Civil Aviation, AVSEC

5.1. Security/Safety
- 5.1.1. Definition of *Security* according to ICAO Annex 17
- 5.1.2. History of Security
- 5.1.3. Evolution of Security Attacks/Measures

5.2. Regulations
- 5.2.1. Security Regulations
- 5.2.2. International Civil Aviation and EU Regulations
- 5.2.3. *One Stop Security* and other agreements between countries

5.3. Facilitation vs. Security/Safety
- 5.3.1. Analysis of the balance that must exist between security and facilitation for the correct functioning of the airport operation
- 5.3.2. Existing Regulations
- 5.3.3. Necessary Equipment

5.4. Material Resources. Equipment
- 5.4.1. Available Equipment
- 5.4.2. Certification, Homologation
- 5.4.3. New Technologies

5.5. Material Resources. Facilities
- 5.5.1. Integral Security Systems
- 5.5.2. Physical Resources
- 5.5.3. Electronic Security Means

5.6. Infrastructure Planning
- 5.6.1. The influence of security on the design of airports
- 5.6.2. Materials
- 5.6.3. Passenger Flows
- 5.6.4. Adequate Facilities for Security Systems

5.7. Human Resources
- 5.7.1. Education
- 5.7.2. Roles and Responsibilities
- 5.7.2. Management of Private Security Services

5.8. Airline Security
- 5.8.1. Aircraft
- 5.8.2. Facilities
- 5.8.3. Reference Standards
- 5.8.4. Special Measures

5.9. Air Cargo Security
- 5.9.1. Weight
- 5.9.2. Mail
- 5.9.3. Onboard supplies
- 5.9.4. Airport supplies

5.10. Safety Quality
- 5.10.1. Quality Control Plan
- 5.10.2. Audits
- 5.10.3. Corrective Actions

Module 6. Airport strategy and commissioning of a new airport

6.1. Airports within the transportation system
- 6.1.1. The airport as a fundamental node
- 6.1.2. The structure of the airport industry
- 6.1.3. The airport operating environment

6.2. Physical characteristics of the Infrastructure
- 6.2.1. The movement area of an aerodrome
- 6.2.2. Passenger terminal buildings
- 6.2.3. Ancillary facilities for airport activities

6.3. Business models and airport strategy
- 6.3.1. Airport business and operating models
- 6.3.2. Commercial activity
- 6.3.3. Development of new routes

6.4. Airport Demand Analysis
- 6.4.1. Air Transport Demand
- 6.4.2. Variables involved in demand analysis
- 6.4.3. Fundamental methodologies for airport traffic forecasting

6.5. Airport Capacity Analysis
- 6.5.1. Airport infrastructure capacity
- 6.5.2. Variables involved in airport capacity
- 6.5.3. Fundamental methodologies for calculating airport capacity

6.6. Congestion, delay and capacity-demand management
- 6.6.1. Quality of service and delay
- 6.6.2. Strategies for airport capacity and demand management
- 6.6.3. Slot coordination

6.7. Stakeholders in the airport environment
- 6.7.1. Identification of stakeholders
- 6.7.2. Characterization of stakeholders
- 6.7.3. Stakeholder management and treatment

6.8. Aerodrome certification
- 6.8.1. The Importance of Aerodrome Certification
- 6.8.2. The aerodrome certification process
- 6.8.3. Aeronautical safety studies

6.9. Airport economic regulation
- 6.9.1. Airport economic regulation models
- 6.9.2. Performance measures and airport *benchmarking*
- 6.9.3. Airport competition and the role of Marketing

6.10. Start-up of a new airport and operational transition
- 6.10.1. The chain of actions in a new airport infrastructure
- 6.10.2. Start-up of a new infrastructure
- 6.10.3. Operational transition and systems integration

Module 7. Air Navigation Systems

7.1. Air Navigation Systems
- 7.1.1. Air Navigation. Key Concepts
- 7.1.2. CNS/ATM system. Key Concepts
- 7.1.3. Air Navigation Services

7.2. Aeronautical Communications Systems: From the sea to the air
- 7.2.1. Communications systems and services
- 7.2.2. Aeronautical Fixed Service
- 7.2.3. Aeronautical Mobile Service
- 7.2.4. Future of Aeronautical Communications

7.3. Navigation Systems: Precision
- 7.3.1. Autonomous Systems
- 7.3.2. Non-Autonomous Systems
- 7.3.3. Augmentation Systems

7.4. Surveillance Systems. Traffic Monitoring Tools
- 7.4.1. Surveillance functions and systems
- 7.4.2. Contribution of radar to the development of aviation
- 7.4.3. Dependent surveillance (ADS): Justification and application
- 7.4.4. Multilateration: Advantages and applications

7.5. Extension of flight paths through Area Navigation
- 7.5.1. The PBN concept
- 7.5.2. RNAV/RNP Relationship
- 7.5.3. Advantages of the PBN concept

7.6. AFTM Management
- 7.6.1. Principles of AFTM in Europe
- 7.6.2. Traffic flow management: need for centralization and objectives
- 7.6.3. ATFCM-CFMU Systems and their phases

7.7. ASM Service - Airspace Management
- 7.7.1. ASM Service: the FUA (airspace flexibility) concept
- 7.7.2. Levels of airspace management and structure
- 7.7.3. Airspace management tools

7.8. ATS services: Air traffic safety and efficiency
- 7.8.1. Background of air traffic control
- 7.8.2. Air traffic control service
- 7.8.3. FIS/AFIS Information Service
- 7.8.4. Flight Progression Tab: From token bay to OSF

7.9. Other ATS services: MET and AIS
- 7.9.1. The meteorological service: Products and their distribution
- 7.9.2. AIS Service
- 7.9.3. ATS service messages: Formats and transmission

7.10. Current and Future Situation. Impact of the New CNS/ATM Systems
- 7.10.1. New CNS systems
- 7.10.2. Benefits and implementation
- 7.10.3. Foreseeable direction of the Air Navigation Systems

Module 8. Aircraft Propulsion Plants

8.1. Principles of Aircraft Propulsion
- 8.1.1. History of Aircraft Propulsion
- 8.1.2. Conservation equations. Thrust definition
- 8.1.3. Propulsive efficiency

8.2. Systems of Aircraft Propulsion
- 8.2.1. Types of propulsion systems
- 8.2.2. Comparative Analysis
- 8.2.3. Applications

8.3. Propeller Propulsion
- 8.3.1. Propeller actions
- 8.3.2. Reciprocating Engine Architecture
- 8.3.3. Turbocharging

8.4. Aeronautical Reciprocating Engines
- 8.4.1. Engine Thermodynamic Analysis
- 8.4.2. Power Control
- 8.4.3. Performance

8.5. Basic Elements of Reaction Engines
- 8.5.1. Turbomachines Compressor and Turbine
- 8.5.2. Combustion chambers
- 8.5.3. Air intakes and nozzles
- 8.5.4. Thermodynamic Analysis of the Turboreactor

8.6. Turbojets
- 8.6.1. Turboreactor operating model
- 8.6.2. Performance
- 8.6.3. Afterburners

8.7. Turbofan
- 8.7.1. Why the evolution from turbojet to turbofan?
- 8.7.2. Operating model of the turbofan
- 8.7.3. Performance

8.8. Turboprop and turboshaft
- 8.8.1. Architecture of turboprops and turboshafts
- 8.8.2. Operating model of the turbofan
- 8.8.3. Performance

8.9. Rocket Engines and other high speed plants
- 8.9.1. Propulsion in Special Conditions
- 8.9.2. The ideal rocket engine
- 8.9.3. Ramjets and other applications

8.10. Environmental aspects of aircraft engines
- 8.10.1. Aircraft engine pollution
- 8.10.2. Use of Alternative Fuels
- 8.10.3. Electric propulsion

Module 9. Aircraft Manufacturers and Maintenance

9.1. Market Analysis and Customer Conditions
- 9.1.1. Request for Information (RFI)
- 9.1.2. Manufacturer analysis
- 9.1.3. Request for Purchase Order (RFP)

9.2. Design Organization
- 9.2.1. Structure of a design organization. Legislation
- 9.2.2. Design phases and certification specifications
- 9.2.3. Systems Analysis

9.3. System Concurrency
- 9.3.1. Motors and stand-alone power unit
- 9.3.2. Landing gears
- 9.3.3. Other on-board systems

9.4. Industrialization
- 9.4.1. Structure of a production organization.. Legislation
- 9.4.2. Phases of production
  - 9.4.2.1. Drawings and assembly instructions
  - 9.4.2.2. Installation and assembly on aircraft
  - 9.4.2.3. Functional tests on land
  - 9.4.2.4. Flight tests
- 9.4.3. Certification phase with the Authority
  - 9.4.3.1. Introduction of documentation and reviews
  - 9.4.3.2. Onshore testing
  - 9.4.3.3. Flight tests and certification flights
  - 9.4.3.4. Issuance of Aircraft Type Certificate (TC)
- 9.4.4. Customer delivery phase and (ToT)
- 9.4.5. Media design and subcontracting

9.5. Continuing Airworthiness and Operation
- 9.5.1. Continuous airworthiness
- 9.5.2. Manuals and technical assistance services
- 9.5.3. Operation
  - 9.5.3.1. In-flight operations
  - 9.5.3.2. Ground operations. *Handling*

9.6. Continuing Airworthiness Management Organization
- 9.6.1. Air Operators (AOC)
- 9.6.2. Continuing Airworthiness Maintenance Organizations (CAMO)
  - 9.6.2.1. Structure and Legislation
  - 9.6.2.2. Responsibilities and Programs
- 9.6.3. Maintenance contracts

9.7. Aircraft Maintenance Program
- 9.7.1. Documentary Bases
- 9.7.2. Approval and updating of programs
- 9.7.3. Compliance with specific air operation approvals

9.8. Aircraft Maintenance Organizations
- 9.8.1. Structure and Legislation
- 9.8.2. Technical capabilities and approvals
- 9.8.3. Capabilities and designations
  - 9.8.3.1. Boroscopic Inspections
  - 9.8.3.2. Non-destructive testing of materials and structures

9.9. Critical Tasks
- 9.9.1. Scheduled maintenance
- 9.9.2. Special approvals
- 9.9.3. Unwanted Objects (FO) AND (FOD)

9.10. Maintenance of Systems and Components
- 9.10.1. Verification of equipment on bench
- 9.10.2. *Overhaul*
  - 9.10.2.1. Engine hot sections
  - 9.10.2.2. Spectrometry of oils
  - 9.10.2.3. Fuel contamination analysis
- 9.10.3. Civilian and military fleets. Differentiated maintenance

Module 10. Technological innovations and aeronautical operations

10.1. Unmanned Aircraft Systems (UAS)
- 10.1.1. Historical evolution of unmanned aircrafts
- 10.1.2. Unmanned Aircraft Typology
- 10.1.3. Industry and main unmanned aircraft manufacturers

10.2. Urban Air Mobility (UAM)
- 10.2.1. Mobility of the future in cities
- 10.2.2. Integration of unmanned aircraft into conventional airspace
- 10.2.3. Innovative urban air mobility projects

10.3. Innovative infrastructures for unmanned aircraft
- 10.3.1. Operating infrastructures. Vertiports
- 10.3.2. Control centers for unmanned aircraft
- 10.3.3. Unmanned aircraft anti-intrusion systems

10.4. New air traffic control systems
- 10.4.1. Remote control tower technology
- 10.4.2. Major developers of remote tower technologies
- 10.4.3. Pioneering NA service providers in the use of remote towers

10.5. New sources of aircraft propulsion
- 10.5.1. Electric propulsion systems
- 10.5.2. Hydrogen propulsion systems
- 10.5.3. PAS propulsion systems

10.6. Innovation in operational procedures
- 10.6.1. Conventional approach procedures
- 10.6.2. Trombone approach procedures
- 10.6.3. *Point Merge System* approach procedure

10.7. Technologies applicable to airport security
- 10.7.1. Automated Border Control Posts (ABC)
- 10.7.2. Implementation of biometric systems
- 10.7.3. Security information management platforms (MISP)

10.8. Innovations in ground handling equipment
- 10.8.1. Services to aircraft through tunnels with retractable platform sockets
- 10.8.2. ZERO emission propulsion *handling* vehicles
- 10.8.3. Artificial intelligence in the improvement of passenger and aircraft assistance processes

10.9. Airports and renewable energies
- 10.9.1. Renewable energies applicable to airport infrastructures
- 10.9.2. Management of sustainable airports (Net-Zero 2050)
- 10.9.3. Airports as an energy solution for their environment

10.10. Innovations in the use of airport infrastructures
- 10.10.1. Airports as aircraft parking aprons
- 10.10.2. Airports for aircraft maintenance and recycling
- 10.10.3. Airports as a platform for space launches

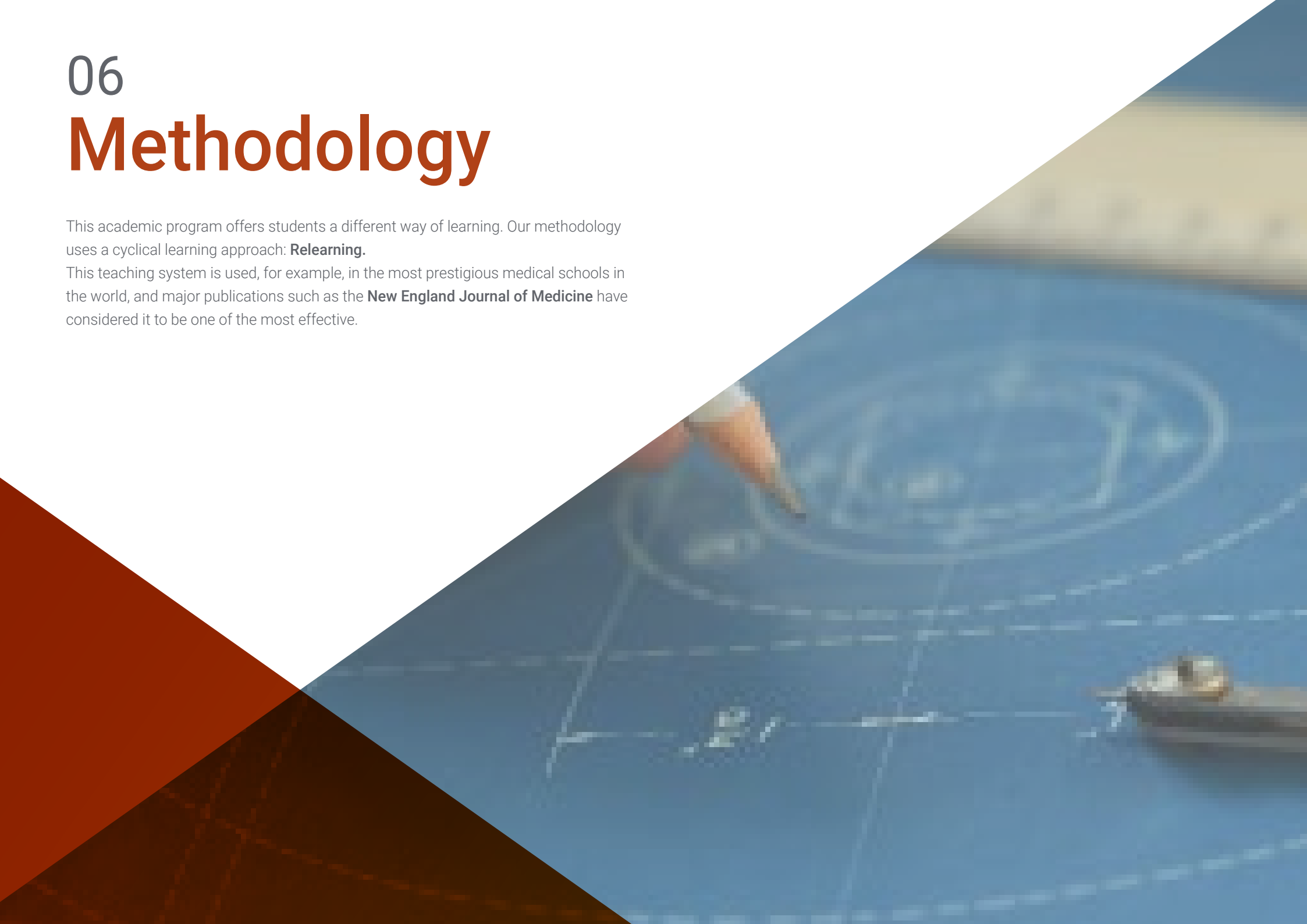
Delve deeper into the influence of security on airport design and integrate it into your future projects"

06

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.

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

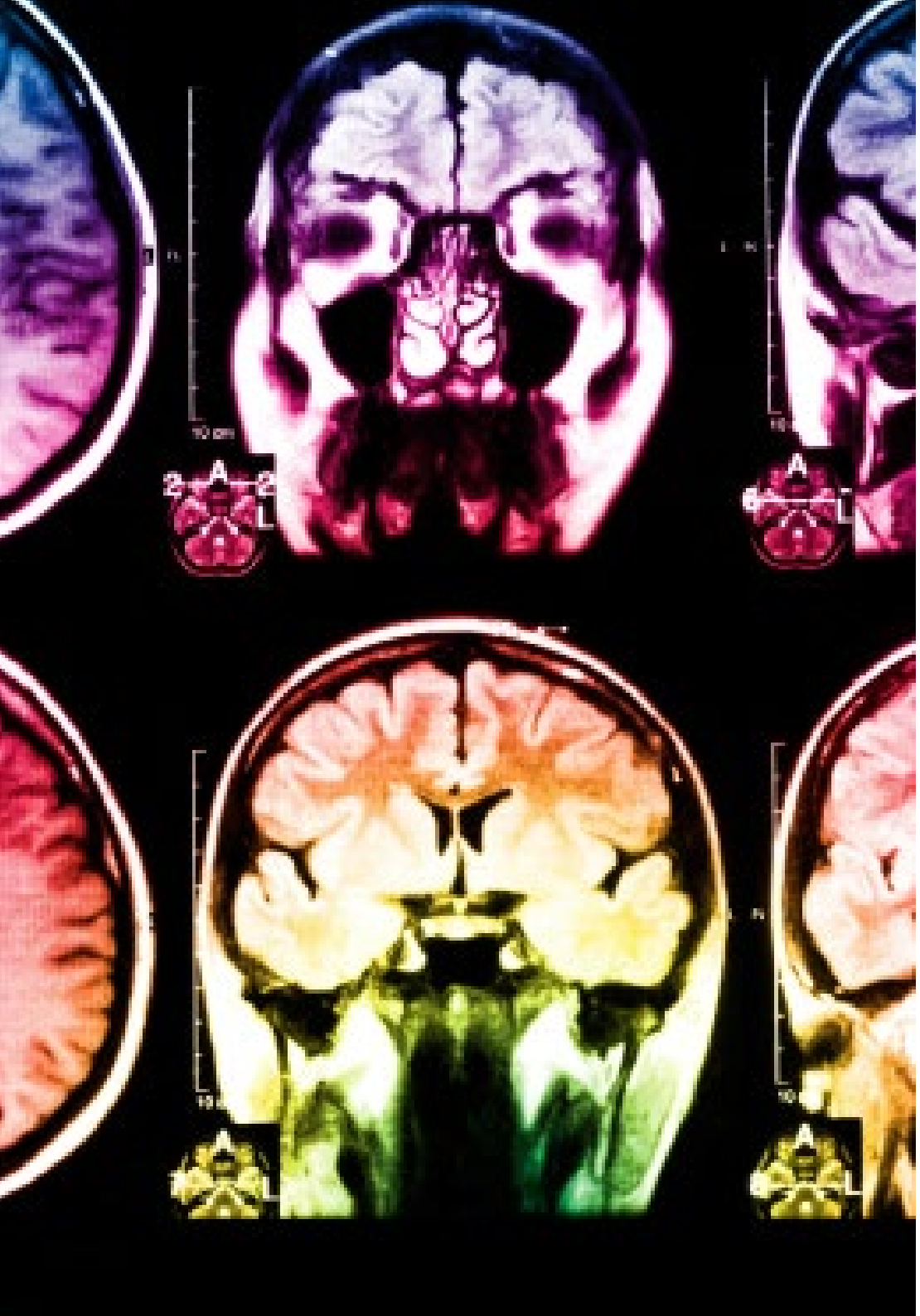
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

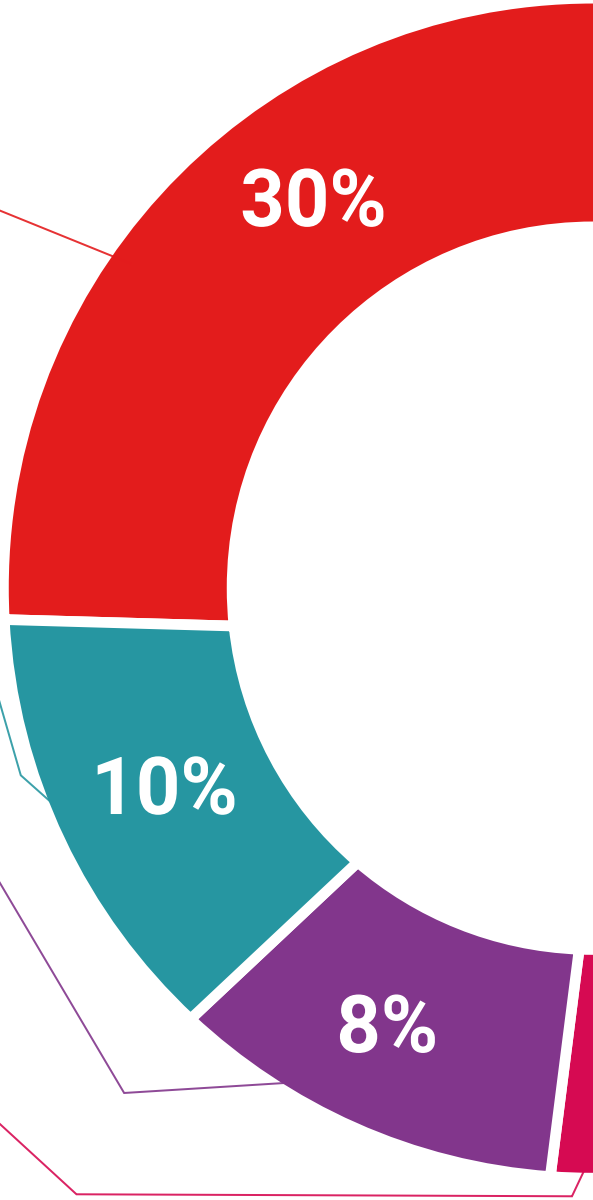
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

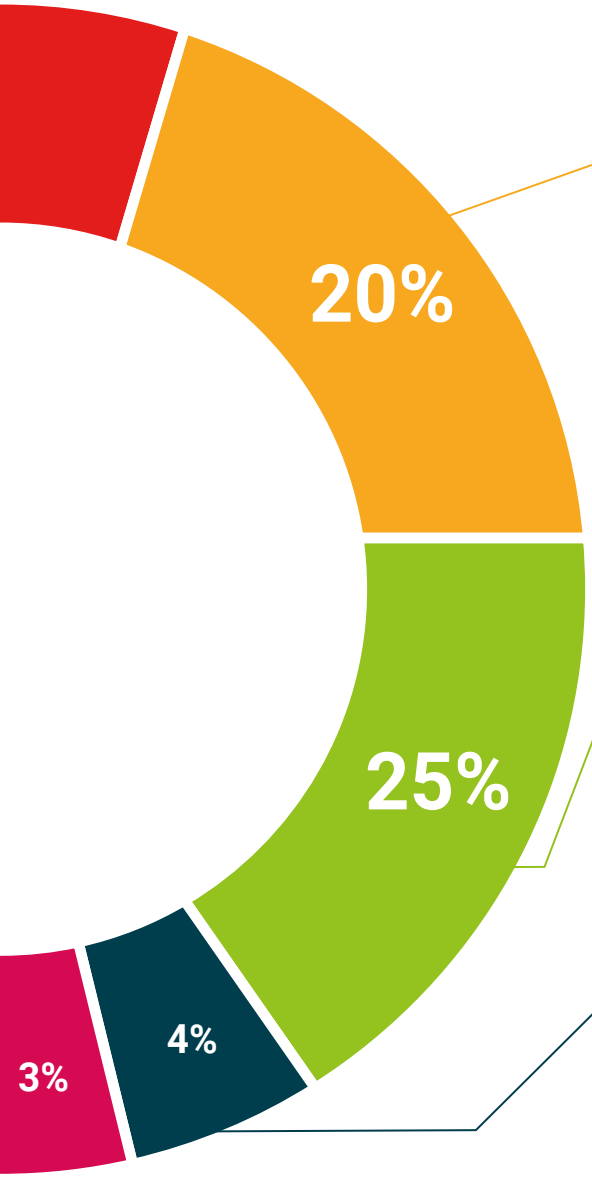
Practising Skills and Abilities

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.

07

Certificate

The Master's Degree in Aeronautical Engineering guarantees students, in addition to the most rigorous and up-to-date education, access to a Master's Degree diploma issued by TECH Global University.

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

This program will allow you to obtain your **Master's Degree diploma in Aeronautical Engineering** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Master's Degree in Aeronautical Engineering**

Modality: **online**

Duration: **12 months**

Accreditation: **60 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Master's Degree in Aeronautical Engineering

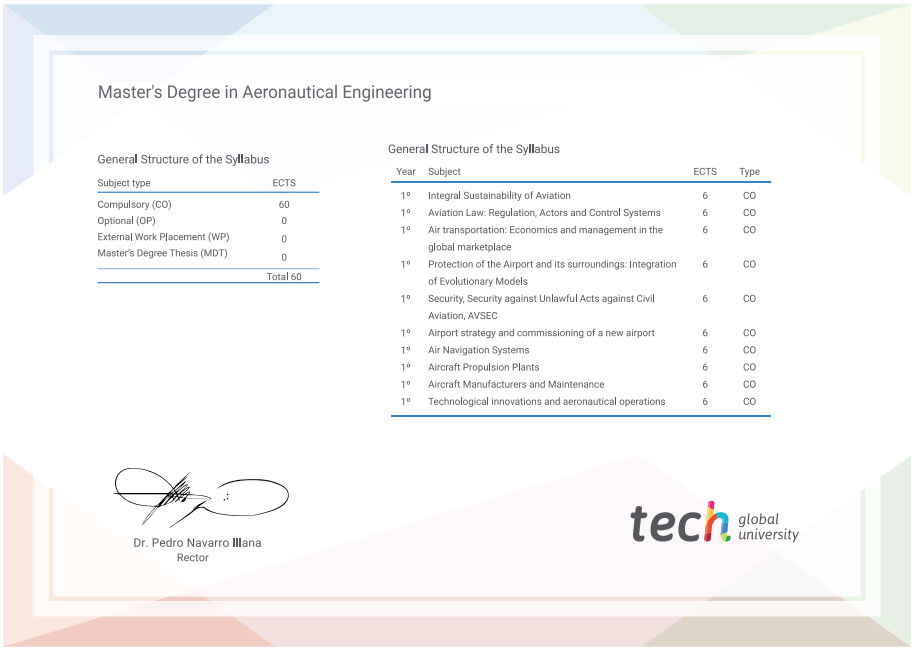
This is a program of 1,500 hours of duration equivalent to 60 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Master's Degree in Aeronautical Engineering

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 60

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Integral Sustainability of Aviation	6	CO
1º	Aviation Law: Regulation, Actors and Control Systems	6	CO
1º	Air transportation: Economics and management in the global marketplace	6	CO
1º	Protection of the Airport and its surroundings: Integration of Evolutionary Models	6	CO
1º	Security, Security against Unlawful Acts against Civil Aviation, AVSEC	6	CO
1º	Airport strategy and commissioning of a new airport	6	CO
1º	Air Navigation Systems	6	CO
1º	Aircraft Propulsion Plants	6	CO
1º	Aircraft Manufacturers and Maintenance	6	CO
1º	Technological innovations and aeronautical operations	6	CO

Dr. Pedro Navarro Illana
Rector

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Master's Degree
Aeronautical Engineering

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Credits: **60 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Master's Degree
Aeronautical Engineering

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