

# Postgraduate Certificate

Protection of the Airport and  
its surroundings: Integration  
of Evolutionary Models



## Postgraduate Certificate Protection of the Airport and its surroundings: Integration of Evolutionary Models

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

Website: [www.techtute.com/in/engineering/postgraduate-certificate/protection-airport-surroundings-integration-evolutionary-models](http://www.techtute.com/in/engineering/postgraduate-certificate/protection-airport-surroundings-integration-evolutionary-models)

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# 01

# Introduction

The planning and design of an airport infrastructure is influenced by the orography of the terrain itself, the type of climate, maritime conditions and the biodiversity of the local ecosystem. An environment that must be taken into account to avoid a harmful impact, which is why international organizations have determined easement measures that are essential for the creation of airfields. In this sense, TECH provides the engineers with a 100% online program of 6 weeks duration that will allow them to acquire advanced knowledge in this field and of great practical utility for their professional performance in a booming industry. All this, in addition, with a syllabus prepared by industry specialists with accumulated experience in aeronautical engineering and available from a digital device with Internet connection.





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*A 100% online Postgraduate Certificate that goes from the traditional concept of airports to a globalized vision”*

The significant development of the aeronautical sector is accompanied by the creation of airport infrastructures that have an impact on both the local economy and the environment in which the activity is carried out. In order to cushion this impact, sometimes negative, the ICAO and at European level the EASA have defined policies and established measures to guarantee operational safety.

In this sense, the monitoring of the protection easement has become a valuable control instrument for the start-up, management and operation of new airports. For this reason, the engineering professionals must be aware of the advances in this field, as well as its current regulation. Thus, this Postgraduate Certificate in Protection of the Airport and its surroundings is born: Integration of Evolutionary Models.

An academic itinerary that will lead students to obtain theoretical and practical learning on the physical conditioning factors in design, current environmental regulations, easements, as well as protection against noise, strategic environmental documents or the socioeconomic impact of aviation. For this purpose, multimedia pills, specialized readings and case studies are available 24 hours a day, from an electronic device with an Internet connection.

Likewise, the graduates will achieve a solid knowledge of this subject without the need to invest a great amount of hours of study and memorization thanks to the Relearning method, based on the reiteration of key concepts throughout the academic course.

Undoubtedly, an ideal academic proposal for those seeking to progress in the industry through flexible teaching. And, without the need to attend centers in person, or have classes with restricted schedules, students will have a unique opportunity to reconcile their daily professional activities with a program that is at the forefront.

This **Postgraduate Certificate in Protection of the Airport and its surroundings: Integration of Evolutionary Models** 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



*It explores, through the best didactic material, the operational, environmental and economic risks existing in the development of airport projects"*



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*Deepen with this program in aeronautical easements and the requirements that must be fulfilled for the planning, execution and operation of aerodromes”*

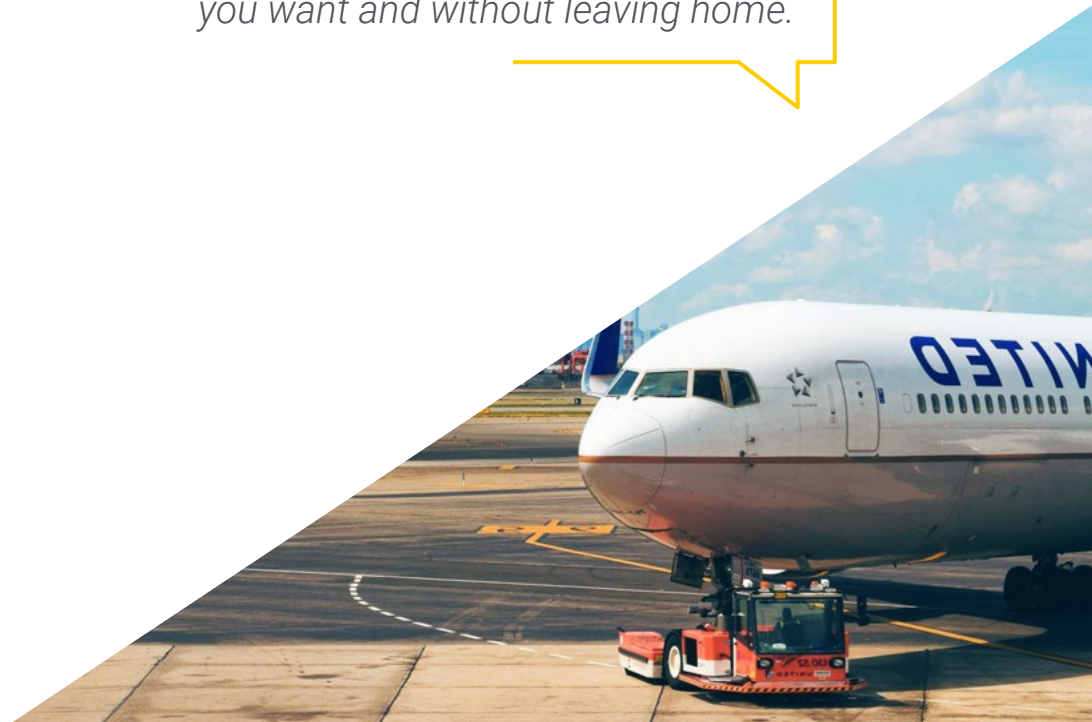
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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.

*An academic tour that will allow you to comfortably delve into the operational safety for all aeronautical activities*

*Do you have a laptop with Internet connection? Easily access the content of this program whenever you want and without leaving home.*



# 02

# Objectives

Students who complete this academic option will have mastered the main concepts related to air transport, its economics and management in an increasingly globalized world. In this way, they will be able to design and create engineering projects according to the current reality, the needs of the sector and the challenges it faces in the not so distant future. A unique opportunity for progression that only TECH, the world's largest digital university, can offer.







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*Enhance your skills for the creation of projects that have an impact on the environmental protection of the surroundings of the airport system”*



## 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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- ◆ 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



*An academic option that focuses on means of protection and the identification of their needs at different airports"*



# 03

# Course Management

Students who take this Postgraduate Certificate have before them an excellent syllabus prepared by a team of professionals with an extensive professional career in the aeronautical and airport sector. Their vision and knowledge of this sector is reflected in a program that provides the latest protection strategies adopted in these infrastructures and their environment. In addition, thanks to their proximity, the students will be able to resolve any doubts they may have about the content of this course.





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*Authentic specialists in aeronautical and airport engineering provide you with the latest information on Airport protection and its surroundings”*

## 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. 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

# 04

# Structure and Content

TECH provides numerous pedagogical tools so that students taking this program can acquire with greater ease a comprehensive teaching on the protection of airports and their surroundings. A content that will lead the graduates to be aware of the integration of evolutionary models, future challenges in airport development and the adaptation of the regulatory framework. In this way, the future professionals will have a solid knowledge base in this area, which will be a plus for their work performance in the sector.







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*A complete study plan that will allow you to delve into the physical factors and regulatory standards that condition airport design"*



**Module 1.** Protection of the Airport and its surroundings: Integration of Evolutionary Models

- 1.1. The airport system. Global conception
  - 1.1.1. Evolution of the airport system concept
  - 1.1.2. Classification of aerodromes according to their environment
  - 1.1.3. Feasibility of adaptation to the environment
- 1.2. Airport design. Conditioning physical factors
  - 1.2.1. Orography and geology
  - 1.2.2. Climatological factors
  - 1.2.3. Environmental factors
- 1.3. Regulatory Framework
  - 1.3.1. Main regulatory agencies
  - 1.3.2. Environmental regulation
  - 1.3.3. Easement regulation
- 1.4. Protection of airport operations
  - 1.4.1. Radio-electric easements
  - 1.4.2. Aerodrome easements
  - 1.4.3. Operational easements
  - 1.4.4. Obstacle free zones
- 1.5. Protection of the airport system environment
  - 1.5.1. Environmental Protection
  - 1.5.2. Noise Protection Noise maps and acoustic easements
  - 1.5.3. Maritime airport environments
  - 1.5.4. Strategic environmental statements/documents
- 1.6. Characterization of the risks to sustainable and coordinated development
  - 1.6.1. Operational risks
  - 1.6.2. Environmental risks
  - 1.6.3. Economic risks







- 1.7. The monitoring of easements
  - 1.7.1. Actors involved and functions
  - 1.7.2. Surveillance mechanisms
  - 1.7.3. Limitation of activities
  - 1.7.4. Coordination mechanisms
- 1.8. Intermodal coordination
  - 1.8.1. Evolution of intermodality
  - 1.8.2. Modal spaces
  - 1.8.3. Coordination with surface transport
- 1.9. Socio-economic impact
  - 1.9.1. Characterization of the global impact of aviation on society
  - 1.9.2. The role of international associations in global development
  - 1.9.3. Local impact. Coordination committees: airport-environment
- 1.10. Future challenges in airport development
  - 1.10.1. Operational constraints and traffic growth
  - 1.10.2. The present and rise of UAVs and the surveillance of easements
  - 1.10.3. The risks of urban and aeronautical innovations
  - 1.10.4. Adaptation of the Regulatory Framework



*A Postgraduate Certificate that will give you the keys to the challenges facing today's airport development"*

05

# 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

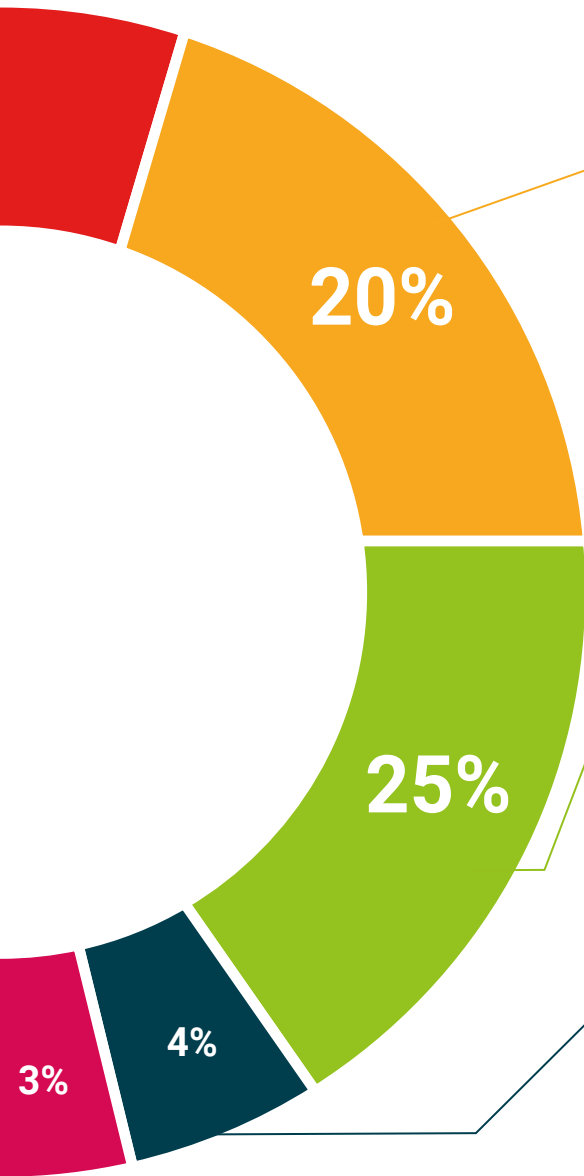
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.





06

# Certificate

The Postgraduate Certificate in Protection of the Airport and its surroundings: Integration of Evolutionary Models guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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”*

This **Postgraduate Certificate in Protection of the Airport and its surroundings: Integration of Evolutionary Models** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University via tracked delivery\***.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Protection of the Airport and its surroundings: Integration of Evolutionary Models**

Official N° of Hours: **150 h.**



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



future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present

online training

development language

virtual classroom

**tech** technological  
university

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