

# Postgraduate Certificate

Meteorology Applied to Unmanned  
and Manned Aviation



## Postgraduate Certificate Meteorology Applied to Unmanned and Manned Aviation

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

Website: [www.techtute.com/us/engineering/postgraduate-certificate/meteorology-applied-unmanned-manned-aviation](http://www.techtute.com/us/engineering/postgraduate-certificate/meteorology-applied-unmanned-manned-aviation)

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# 01

# Introduction

The great potential of unmanned aerial vehicles has led to their widespread use in all parts of the world, with applications in multiple sectors. However, one of the factors conditioning their operability is weather conditions. For this reason, either for its design or for its flight, it is necessary to have advanced knowledge in this field, since it will allow much more effective and safer aerial navigation. This is the line of thought of this degree, which leads the graduate to an apprenticeship of full utility for their daily performance or the elaboration of projects in this area. All this in a 100% online format, accessible at any time from any device with an Internet connection.





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*You are one step away from enrolling in a 100% online Postgraduate Certificate that will raise your level of competence in Meteorology and its application in aeronautics"*

In the flight of an unmanned and manned aircraft, identifying the effects of weather conditions such as wind, temperature, visibility or air density are key to its correct operation. In this sense, technological advances and scientific knowledge have made predictions much more accurate and aeronautical navigation safer.

In this context, it is essential that engineers interested in this sector have a mastery of meteorology, as well as the basic skills, abilities and aptitudes that every drone pilot must possess. Faced with this reality, TECH has designed this Postgraduate Certificate in Meteorology Applied to Manned and Unmanned Aviation of 150 teaching hours.

This 6-week academic itinerary will allow them to handle the abbreviations and definitions of the MET services guide and to investigate the meteorological services offered by the State Meteorological Agency. They will also master the practical procedures to obtain information on the state of atmospheric weather.

A program consisting of teaching tools, in which the latest technology applied to educational teaching has been used. Also, thanks to the Relearning method, based on the reiteration of content throughout the educational path, the graduate will reduce the number of hours of study.

Consequently, it is an excellent opportunity to progress in a growing sector through a university program that facilitates access to its content from anywhere in the world and with only an electronic device with internet connection. Therefore, it is an ideal academic option to combine with the most demanding daily responsibilities.

This **Postgraduate Certificate in Meteorology Applied to Unmanned and Manned Aviation** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ Practical cases presented by experts in Drone Piloting
- ♦ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*You will be up-to-date with the main documents used to interpret aeronautical meteorological information"*

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*You will improve your engineering projects through this Postgraduate Certificate that will lead you to deepen your knowledge of the main atmospheric phenomena"*

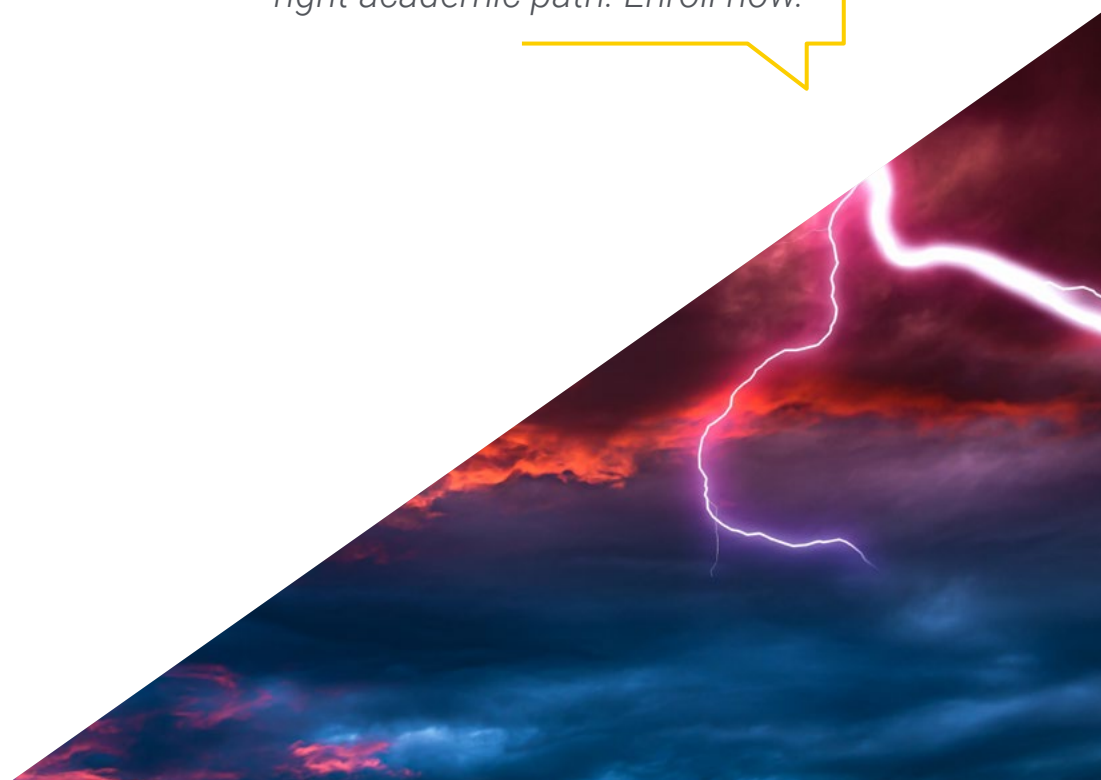
The program includes in its teaching staff professionals from the sector who bring to this program the experience of their work, as well as recognized specialists from leading societies and prestigious universities.

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

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*With the best didactic material, explore the particularities and fundamentals of altimetry.*

*Looking for a program compatible with your tight daily schedule? You are in the right academic path. Enroll now.*



# 02

# Objectives

Undoubtedly, the main goal of this qualification created by TECH is to increase the engineer's field of action in the drone sector. In this sense, this program provides decisive knowledge for flight operations: meteorology. Therefore, from a theoretical-practical approach, the students will obtain a learning of great daily application and based on scientific-technical evidence.







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*Enroll now and grow as an engineer specialized in Meteorology Applied to Manned and Unmanned Aviation”*



## General Objectives

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- ♦ Carry out professional safe flights in the different scenarios, following the normal and emergency procedures established in the Operations Manual
- ♦ Carry out the test flights necessary for the development of air operations following the manufacturer's maintenance manual indications and the legislation in force
- ♦ Identify the work procedures involved in each intervention, both flight and maintenance, in order to select the required technical documentation
- ♦ Evaluate situations of occupational risk prevention and environmental protection. Propose and apply prevention and protection measures, both personal and collective, according to the applicable regulations in the work processes, in order to guarantee safe environments





## Specific Objectives

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- ◆ Develop the capabilities, skills and aptitude in this discipline
- ◆ Be able to differentiate the quality of the sources when gathering aeronautical meteorology information
- ◆ Interpret the different meteorological products for their application in the flights to be performed
- ◆ Apply the knowledge acquired in each phase of the flight
- ◆ Prevent possible adversities to which the flight may be subjected

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*Thanks to this Postgraduate Certificate, you will have the necessary knowledge to know and interpret the adverse weather conditions that influence drones”*

03

# Course Management

In its commitment to offer quality education that is available to all, TECH carries out a rigorous selection process for each and every one of the teachers that participate in its academic programs. In this way, students have the security of being able to access information prepared by real experts in the field. In this sense, this Postgraduate Certificate consists of a syllabus prepared by excellent airline transport pilots and RPAS instructors.



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*You will gain advanced knowledge on meteorology from experts with experience in airline transport and drone piloting”*

## Management



### Mr. Pliego Gallardo, Ángel Alberto

- ♦ Airline Transport Pilot ATPL and RPAS Instructor
- ♦ Drone flight instructor and examiner at Aero-cameras
- ♦ Project Manager at ASE Pilot School
- ♦ Flight Instructor at FLYBAI ATO 166
- ♦ RPAS specialist teacher in university programs
- ♦ Author of publications related to the field of Drones
- ♦ Researcher in R+D+i projects related to RPAS
- ♦ Airline Transport Pilot ATPL by the Ministry of Education and Science
- ♦ Degree in Primary Education Teaching from the University of Alicante
- ♦ Certificate in Pedagogical Aptitude, University of Alicante



# 04

## Structure and Content

The syllabus of this Postgraduate Certificate will lead the graduate to master the concepts of meteorology that influence the flight of drones and aircraft. To achieve this knowledge, the student will have access to video summaries, videos in detail, essential readings and simulations of case studies that bring dynamism to this teaching. In addition, this material will be accessible 24 hours a day, 7 days a week, during the 6 weeks of duration of this university proposal.





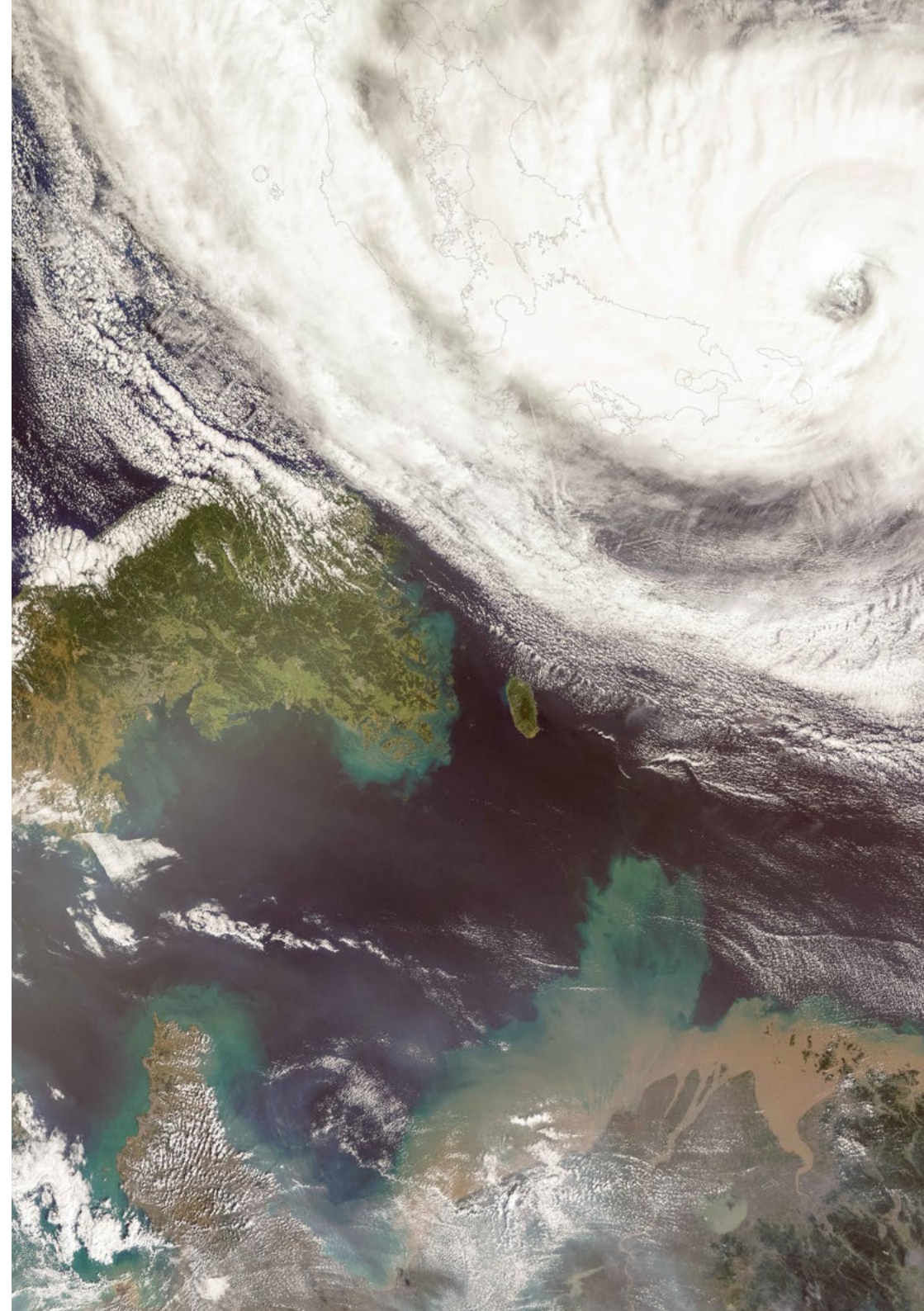


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*You have numerous additional teaching resources at your fingertips to further extend the information provided in this university program”*

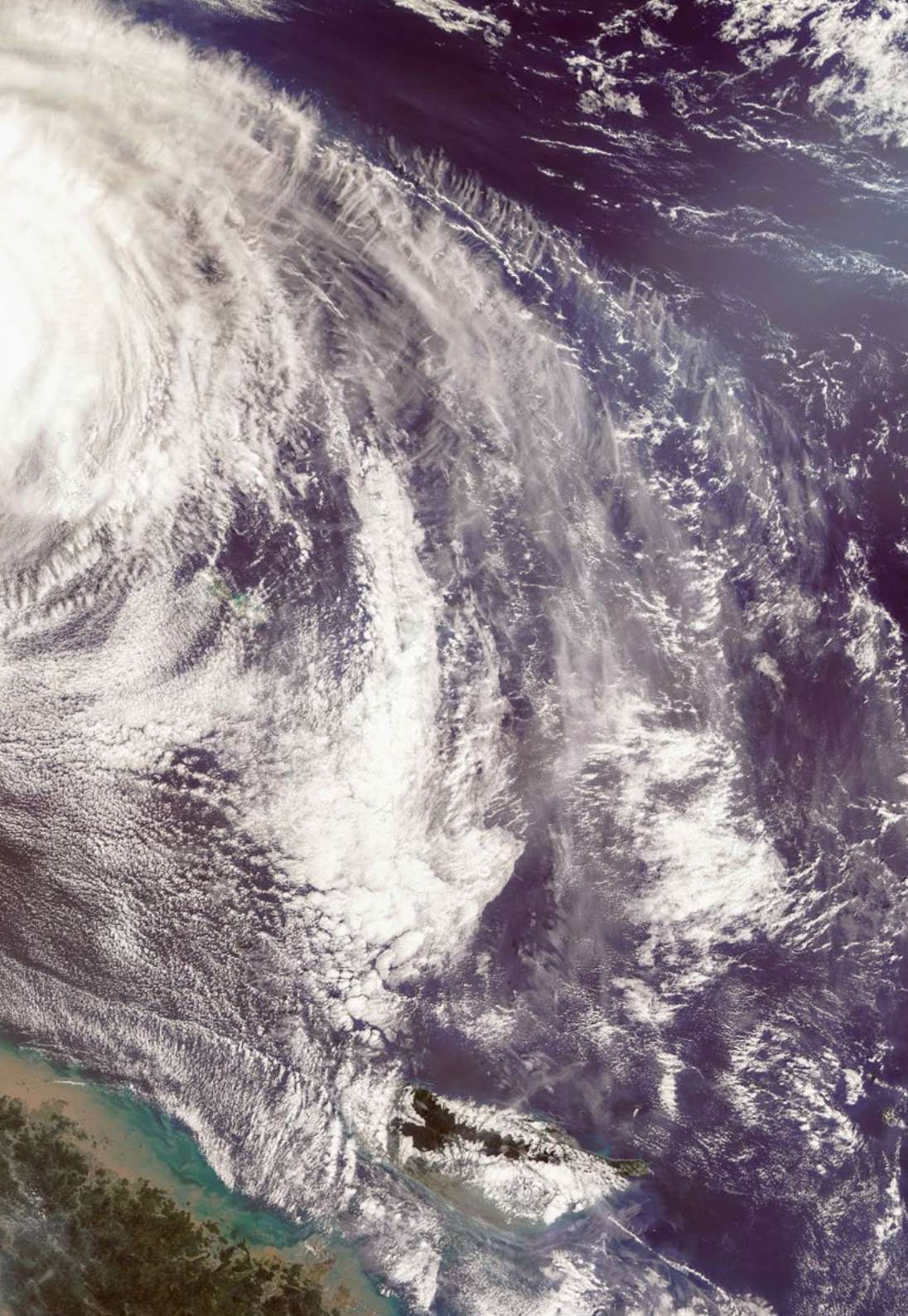
## Module 1. Meteorology

- 1.1. Abbreviations
  - 1.1.1. Definition
  - 1.1.2. Abbreviations Applied to Aviation
  - 1.1.3. Abbreviations and Definitions of the MET Services Guide
- 1.2. The State Meteorological Agency
  - 1.2.1. Guide to Meteorological Services for Airspace Navigation
  - 1.2.2. Aeronautical Meteorological Information Guide
  - 1.2.3. AMA. Self-Service Meteorological Aviation
- 1.3. The Atmosphere
  - 1.3.1. Thesis. Layers of the Atmosphere
  - 1.3.2. Temperature, Density and Pressure
  - 1.3.3. Cyclone. Anticyclone
- 1.4. Altimetry
  - 1.4.1. Particularities and Fundamentals
  - 1.4.2. Calculations with Instruments
  - 1.4.3. Calculations without Instruments
- 1.5. Atmospheric Phenomena
  - 1.5.1. Wind
  - 1.5.2. Clouds
  - 1.5.3. Fronts
  - 1.5.4. Turbulence
  - 1.5.5. Wind Shear
- 1.6. Visibility
  - 1.6.1. Visibility on the Ground and in Flight
  - 1.6.2. VMC Conditions
  - 1.6.3. IMC Conditions
- 1.7. Meteorological Information
  - 1.7.1. Low Elevation Charts
  - 1.7.2. METAR
  - 1.7.3. TAF
  - 1.7.4. SPECI



- 1.8. Meteorological Previsions
  - 1.8.1. TREND
  - 1.8.2. SIGMET
  - 1.8.3. GAMET
  - 1.8.4. AIRMET
- 1.9. Solar Storms
  - 1.9.1. Thesis
  - 1.9.2. Features
  - 1.9.3. Procedures for Obtaining Meteorological Information on Earth
- 1.10. Practical Procedures for Obtaining Meteorological Information
  - 1.10.1. Before the Flight
  - 1.10.2. During the Flight
  - 1.10.3. VOLMET

“ *An academic itinerary that will allow you to be aware of the AIP-ENAIRE maps to facilitate drone flights* ”



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.





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*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 Certificate in Meteorology Applied to Unmanned and Manned Aviation 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 Meteorology Applied to Unmanned and Manned Aviation** 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 diploma 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 Meteorology Applied to Unmanned and Manned Aviation**

Official N° of Hours: **150 h.**



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



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