Postgraduate Certificate

Navigation and Map Interpretation for Aerial Navigation Applied to Drones

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Postgraduate Certificate
Navigation and Map Interpretation for Aerial Navigation Applied to Drones

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Accreditation: **6 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-certificate/navigation-map-interpretation-aerial-navigation-applied-drones**

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01

Introduction

The boom in the use of drones for work purposes in certain sectors has led to an increased interest on the part of engineers in the piloting of these devices. Therefore, this work requires a thorough knowledge of aerial navigation, in order to avoid incidents and accidents in this space. In this sense, to promote such learning, TECH has designed this program, which will allow the graduate to master the main concepts of drone flight or the interpretation of aeronautical charts, as well as to identify the different aeronautical service providers currently available. All this, with a teaching methodology 100% online and with the best didactic resources in the present academic panorama.

Take a step further in your professional career as an engineer with this Postgraduate Certificate in Navigation and Map Interpretation for Aerial Navigation Applied to Drones"

The use of drones by engineering professionals is on the rise due to their multiple applications in sectors such as agriculture, tourism or cartography. Regardless of their purpose, the interpretation of maps and the understanding of geographic elements are fundamental aspects to plan efficient drone flights.

In this sense, it is essential to have high skills in the interpretation of aeronautical charts, as well as knowledge about the different technological systems used to make an effective use of airspace. Given this reality, TECH has designed this 6-week Postgraduate Certificate in Navigation and Map Interpretation for Air Navigation Applied to Drones.

Likewise, the intensive syllabus of this Postgraduate Certificate has been created by authentic experts with an accumulated experience as drone pilots and flight instructors. Thanks to their deep knowledge of this field, the graduate will obtain a quality education according to their real needs. In addition, the study plan includes a didactic methodology of Relearning that leads to a solid learning and does not require long hours of study and memorization.

This is complemented by extensive teaching material based on video summaries, videos in detail, supplementary readings and case studies that provide dynamism and a much more enjoyable theoretical-practical vision.

The professional is, thus, before a unique academic option to be able to increase his field of action in this area with total guarantee. In addition, students will have greater flexibility in the self-management of their studies, as they will not have to go to any center in person, nor will they have to attend classes with restricted schedules.

This **Postgraduate Certificate in Navigation and Map Interpretation for Aerial Navigation Applied to Drones** contains the most complete and up-to-date scientific 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 assignments
- Content that is accessible from any fixed or portable device with an Internet connection

An academic option that allows you to combine your daily personal activities with a quality education”

This program will lead you to carry out an analysis of GLONASS and its comparison with GPS to undertake safe flights in different scenarios"

It delves into the representation of the Earth and the means, manual and electronic, to position and move a drone in the air.

Reduce the long hours of study and memorization with the Relearning pedagogical system used by TECH.

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

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive specialization programmed to prepare 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This academic option has been designed to provide engineering professionals with the necessary knowledge to increase their skills and abilities in aerial navigation with Drones. In order to achieve this goal successfully, TECH provides first class pedagogical tools, among which case study simulations that provide a practical and highly applicable vision for the performance of this work.

Specialize in Drones and learn all the necessary concepts to be able to carry out safe flights"

General Objectives

- Carry out professional safe flights in 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

- Interpret the different projections of the earth to apply them to different aircraft positions
- Navigate the aircraft safely by hand, knowing the position of the aircraft at all times
- Navigate the aircraft automatically and safely, knowing its position at all times and being able to intervene in any phase of the flight
- Gain in-depth knowledge of the different navigation aids, their sources and applications
- Implement navigation aids
- Develop the ability to take into account the limitations that each legislation publishes, in order to carry out flights in safe conditions

Thanks to the case studies you will understand aeronautical charts more easily"

03

Course Management

The excellent professional background in the instruction and piloting of drones has been a determining factor in the choice of the faculty that teaches this university program. Therefore, the graduate will have the opportunity to acquire a deep knowledge of the interpretation and use of aeronautical charts, as well as the essential concepts to master in aerial navigation. Likewise, thanks to the proximity of the teachers, the student will be able to solve any doubt they might have about the content of this Postgraduate Certificate.

Get an effective learning about aerial navigation from the hand of real experts in drone flight"

Management

Mr. Pliego Gallardo, Ángel Alberto

- Airline Transport Pilot (ATPL)
- RPAS, Ultralight Aircraft and Private Plane Pilot
- Instructor and Theoretical and Practical Examiner for RPAS
- University Professor in at UNEATLANTICO
- University Diploma from the Secretary of State for Universities and Research
- Professor of "Aircraft Maintenance" European Social Fund Course (TMVVO004PO) FEMPA 2019
- Degree in Primary Education Teaching from the University of Alicante
- Pedagogical Aptitude Course from the University of Alicante
- Authorised Operator for AESA (State Aviation Safety Agency)
- Manufacturer of RPAS authorized by AESA

Mr. Bazán González, Gerardo

- Electronic Engineer
- Specialist in Aviation Works in Spain and Latin America
- Key Account and Institutional Expert
- RPAS Pilot

Professors

Mr. Fernández Moure, Rafael L

- Specialist in Airport Security
- Expert in Airport Security
- RPAS Pilot RPAS Instructor

Ms. López Amedo, Ana Mª

- Vice president of the Federation for Air Sports in the Community of Valencia
- President of the San Vicente del Raspeig Air Sports Club
- Institutional Expert
- Specialist and Expert in Unmanned Aviation
- RPAS Pilot
- RPAS Instructor
- RPAS Examiner

04

Structure and Content

The curriculum of this university program is distinguished by providing students with the most comprehensive and in-depth knowledge of navigation and map interpretation. In this sense, such learning will allow the engineer to be able to perform this work with a total guarantee of safety. For this purpose, he also has at his disposal the numerous additional didactic material that makes up the virtual library with unlimited access 24 hours a day, 7 days a week, during the entire academic process.

A complete curriculum that will allow you to master the key concepts for drone navigation"

Module 1. Navigation and Interpretation of Maps

1.1. Fundamental Concepts
- 1.1.1. Definitions
- 1.1.2. Application
- 1.1.3. Routometer

1.2. The Earth: Longitude, Latitude, Positioning
- 1.2.1. Geographical Coordinates
- 1.2.2. Positioning

1.3. Aeronautical Charts: Interpretation and Use
- 1.3.1. Aeronautical Charts
- 1.3.2. Typology of Aeronautical Charts
- 1.3.3. Projections of Aeronautical Charts

1.4. Navegation: Types and Technique
- 1.4.1. Types of Flight
- 1.4.2. Observed Navigation
  - 1.4.2.1. Dead Reckoning Navigation

1.5. Navigation: Supports and Equipment
- 1.5.1. Navigation Aids
- 1.5.2. Applications
- 1.5.3. Equipment for Flights with RPA

1.6. Limitations of Altitude and Distance. Use of Airspace
- 1.6.1. VLOS
- 1.6.2. BVLOS
- 1.6.3. EVLOS

1.7. GNSS. Use and Limitations
- 1.7.1. Description
- 1.7.2. Operation
- 1.7.3. Control and Accuracy. Limitations

1.8. GPS
- 1.8.1. Fundamentals and Functions of GLONASS and GPS
- 1.8.2. Differences Between GLONASS and GPS
- 1.8.3. GPS

1.9. AIP-ENAIRE Maps
- 1.9.1. ENAIRE
- 1.9.2. INSIGNIA. Online Aeronautical Information Maps
- 1.9.3. INSIGNIA VFR. Online Aeronautical Information Maps Specific For Night Flight:

Delve from anywhere in the world into the means required for both manual and assisted RPA 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.

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

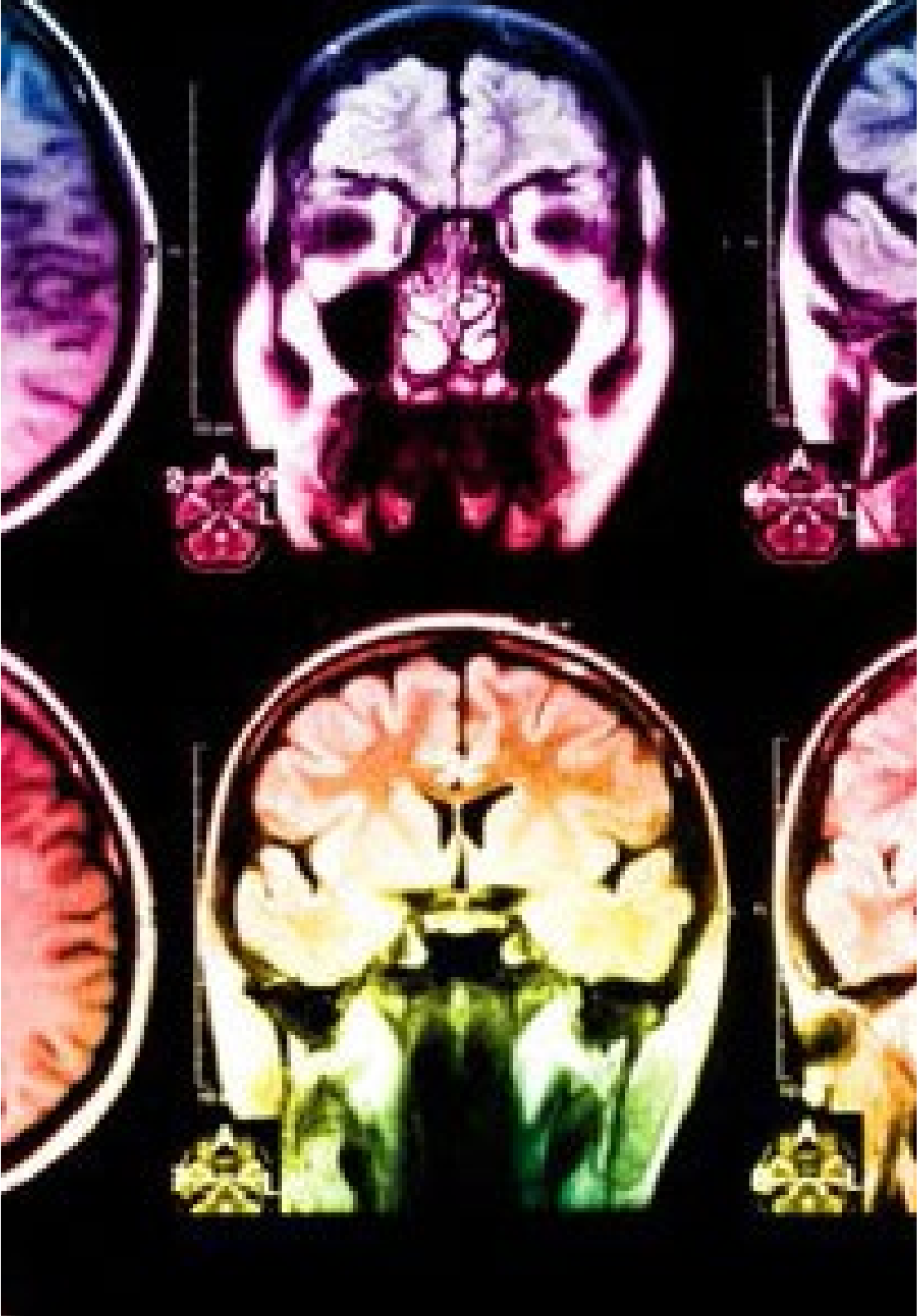
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

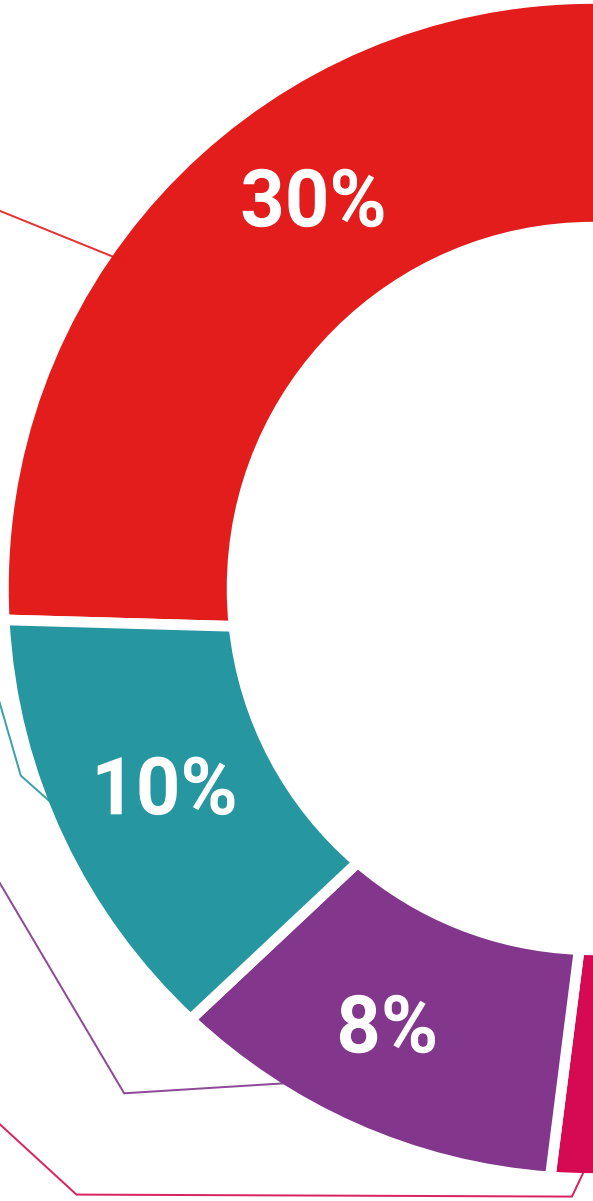
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

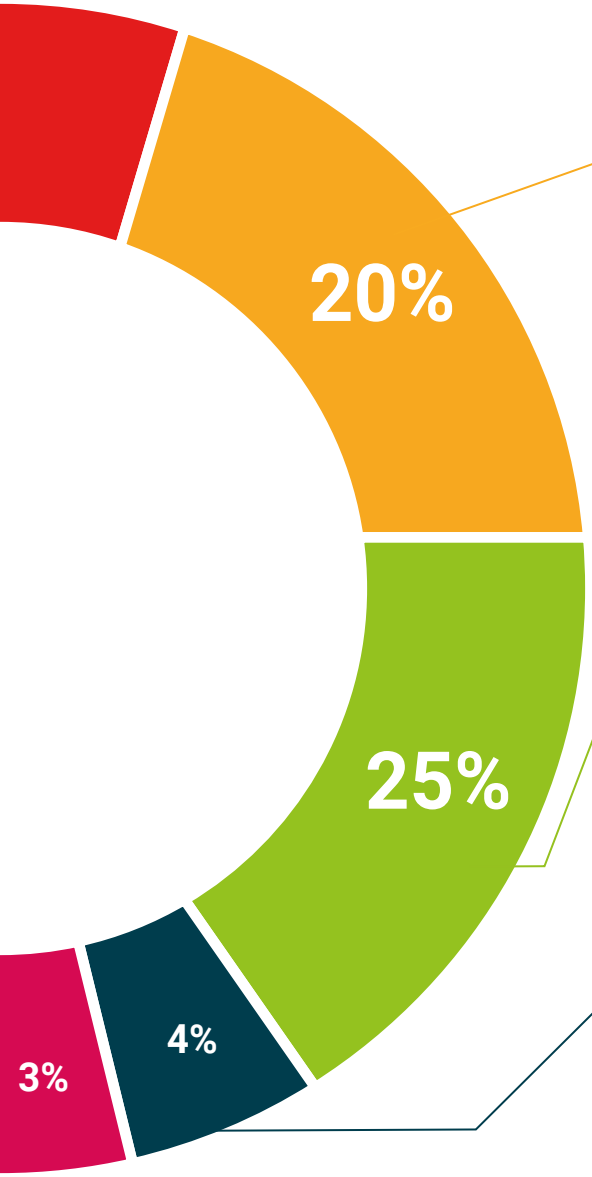
Practising Skills and Abilities

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 NNavigation and Map Interpretation for Aerial Navigation Applied to Drones guarantees, in addition to the most rigorous and up to date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a **Postgraduate Certificate in Navigation and Map Interpretation for Aerial Navigation Applied to Drones** 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** private qualification, 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: **Postgraduate Certificate in Navigation and Map Interpretation for Aerial Navigation Applied to Drones**

Modality: **Online**

Duration: **6 weeks**

Accreditation: **6 ECTS**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Navigation and Map Interpretation for Aerial Navigation Applied to Drones

This is a private qualification of 180 hours of duration equivalent to 6 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
Dean

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

*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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