Postgraduate Diploma
Drone Flight

tech global university

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Postgraduate Diploma
Drone Flight

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-drone-flight**

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01

Introduction

In recent years, the demand for drones has grown significantly in areas such as industrial inspection, topographic analysis or mapping to facilitate numerous tasks and optimize the implementation of projects. As a result of this, a wide range of new professional perspectives have opened up for engineers specialized in all aspects related to their flight. That is why TECH has designed this program, which provides the student with knowledge in this field to boost their incursion into an area of continuous growth
This way, you will learn the limitations of air operations or the keys to carry out effective and safe communications during flights, following a 100% online methodology that will allow you to learn without moving to a study center

Learn how to act in the different emergency situations that may arise when flying drones thanks to this Postgraduate Diploma"

Drones are tools that, as a result of technological development, are increasingly used in different areas of professional activity. However, the implementation of their operations is very complex, it being necessary to master all aspects related to limitations, areas, supervision of operations and communications to carry out safe and efficient actions. Consequently, professionals with extensive skills in all fields related to Drone Flight are very necessary nowadays, in order to ensure an effective operation of the aircraft

For this reason, TECH has created this degree, through which the student will increase their skills in this field and enjoy the broad career prospects offered by the sector. Throughout this academic period, students will learn about the aerial limitations related to the space in which they operate and the strategies for the prevention of accidents In addition, you will learn the international alphabet for radio communications or identify the protocols for action in emergency situations

This Postgraduate Diploma is developed through a revolutionary 100% online teaching method, which allows the student to perfectly combine an exquisite learning with their personal and professional daily obligations. In the same way, it is designed and taught by the best active experts in drone piloting, who have transferred all their knowledge to the didactic resources of the program. Therefore, the contents available to the student will be in tune with the latest updates in the sector

This **Postgraduate Diploma in Drone Flight** contains the most complete and up-to-date program on the market. Its most outstanding features are:

- 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

Through this program, you will learn to take into account the aerial limitations related to the space in which you operate to carry out Drone Flights completely safe"

Study from the place you want and 24 hours a day through the 100% online methodology of this Postgraduate Diploma"

Manage, through this qualification, the strategies to prevent accidents that may arise during Drone Flight

Position yourself as a professional of reference in Drone Flight in only 6 months of intensive learning

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 training programmed to train in real situations

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

02

Objectives

TECH has designed the Postgraduate Diploma in Drone Flight with the intention of providing the student with a complete specialization on all aspects related to this subject. During 450 hours of learning, you will delve into the operational procedures or the ins and outs of area communication. Such learning will be preserved by achieving the following general and specific objectives

Take this Postgraduate Diploma and become part of a professional field that is increasingly in demand"

General Objectives

- 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

Be able to manage completely safe drone flights thanks to the knowledge acquired in this degree"

Specific Objectives

Module 1. Operational Procedures

- Establish procedures as a fundamental basis for flight and air operations
- Develop a critical capacity and prioritize flight safety and the review of procedures in accordance with the company's internal legal formalities and external aviation regulations
- Acquire an overview of the MO and make it a particular Procedure Guide, observe it and communicate possible improvements through the regulatory channel
- Identify and respect the different operational scenarios in which we are going to carry out our aerial activity
- Understand the responsibility of being flight personnel: both pilot and observer
- Understand how to become an operator
- Be sensitized to record flight times and aircraft maintenance
- Inform pilots of the maintenance of their competence and skills
- Understand operating procedures and clearances

Module 2. Aeronautical

- Define and know about the characteristics of waves and their transmission
- Identify the bands of frequency and know their main characteristics
- Identify and know the types of wave: radio waves, ground waves, sky waves
- Know about and identify the main components in a radio transmission and the elements that make up a transmission
- Identify the different categories of the messages
- Use the phonetic alphabet, transmission of letters and numbers, decimal numbers, identifiers
- Use the structure and components of the standard communications: Structure a communication, order the messages and listen
- Correctly apply the transmission techniques, microphone techniques, message transmission, message collation
- Describe and use standard phraseology, messages and use in air traffic and general air travel
- Gain in-depth knowledge of the different types of aerodromes and the types of transmission used in each of them: controlled and uncontrolled aerodromes
- Understand and implement distress procedures, description and practice of procedures, condition of danger, content of distress messages, radio silence of the competent authority
- Prioritize and implement emergency procedures

Module 3. Engineering Technology in Flight

- Acquire an overview of the design of a drone based on a concrete example
- Acquire sufficient skills to perform safe flights, integrating all phases of flight and demonstrating the relevance of design and technology
- Acknowledge the importance of adequate flight preparation to ensure a safe flight
- Acquire responsible habits regarding the basic and mandatory maintenance of aerial platforms
- Register the flights in the corresponding books

Be able to manage completely safe drone flights thanks to the knowledge acquired in this degree"

03

Course Management

Under the premise of providing the highest educational level in their programs, this course has a teaching staff made up of leaders in the field of drones. These specialists have an excellent experience in drone piloting, as well as in the instruction of future professionals in the field. Therefore, the knowledge that they will provide in the didactic contents will be a great seal of guarantee of the quality of this Postgraduate Diploma

This qualification is taught by the best drone pilots to provide you with the contents with the greatest applicability in your professional experience"

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

Professors

Ms. López Amedo, Ana María

- RPAS Pilot and Instructor
- RPA instructor in several courses
- RPAS Examiner in several courses
- Vice-president of the Valencian Federation of Aerial Sports
- President of the San Vicente del Raspeig Air Sports Club
- Drone Pilot by the ATO-166 FLYBAI
- Drone Instructor by ATO-166 FLYBAI
- Radiotelephone operator by ATO-166 FLYBAI

04

Structure and Content

The syllabus of this program is made up of 3 excellent modules with which the engineer will delve into the most relevant aspects of Drone Flight, mastering the different operational procedures or communications areas. The didactic materials that will be available during the duration of this program are present in a wide range of textual and multimedia formats. This fact, in addition to the 100% online mode of the Postgraduate Diploma, preserves individualized and enjoyable learning for each student.

This study plan has been specifically designed by professionals with extensive experience in piloting drones"

Module 1. Operational Procedures

1.1. Operational Procedures of Flight
- 1.1.1. Operative Definition
- 1.1.2. Acceptable Means
- 1.1.3. Operational Procedure of the Flight

1.2. Operations Manual
- 1.2.1. Definition
- 1.2.2. Content
- 1.2.3. Index

1.3. Operational Scenarios
- 1.3.1. Justification
- 1.3.2. Standard Scenarios
  - 1.3.2.1. For Night Flight: STSN01
  - 1.3.2.2. For Flight in a Controlled Airspace: STSE01
  - 1.3.2.3. Urban Scenarios
    - 1.3.2.3.1. For Flights in Built-Up Areas: STSA01
    - 1.3.2.3.2. Flights in Built-Up Areas and a Controlled Airspace: STSA02
    - 1.3.2.3.3. Flights in Built-Up Areas and an Atypical Airspace: STSA03
    - 1.3.2.3.4. For Flight in Built-Up Areas, a Controlled Airspace and Night Flight: STSA04
- 1.3.3. Experimental Scenarios
  - 1.3.3.1. Experimental Flights in BVLOS in Segregated Airspace for Aircraft Weighing Less Than 25kg: STSX01
  - 1.3.3.2. Experimental Flights in BVLOS in Segregated Airspace for Aircraft Weighing More Than 25kg: STSX02

1.4. Limitations Related to the Space in Which Its Operated
- 1.4.1. Maximum and Minimum Altitudes
- 1.4.2. Limitations of Maximum Distance of Operation
- 1.4.3. Meteorological Conditions

1.5. Operation Limitations
- 1.5.1. Relative to the Pilot
- 1.5.2. Relative to the Area of Protection and the Recovery Zone
- 1.5.3. Relative to the Objects and Dangerous Substances
- 1.5.4. Related to Flying Facilities

1.6. Flight Personnel
- 1.6.1. The Pilot in Charge
- 1.6.2. The Observer
- 1.6.3. The Operator

1.7. Operation Supervision
- 1.7.1. The Operation Manual
- 1.7.2. Objectives
- 1.7.3. Responsibility

1.8. Prevention of Accidents
- 1.8.1. The Operation Manual
- 1.8.2. General security checklist
- 1.8.3. Particular security checklist

1.9. Other Mandatory Compliance Procedures
- 1.9.1. Flight Time Records
- 1.9.2. Maintaining Remote Pilot Aptitude
- 1.9.3. Maintenance Records
- 1.9.4. Procedure to Obtain the Airworthiness Certificate
- 1.9.5. Procedure to Obtain Special Certification for Experimental Flights

1.10. Procedure to Become an Operator
- 1.10.1. Qualification Procedure: Prior Communication
- 1.10.2. Procedure to Become an Operator: Specialized Air Operations or Experimental Flights
- 1.10.3. Operator Deregistration and Prior Notification

Module 2. Aeronautical

2.1. Radiophonist Qualification for Remote Pilots
- 2.1.1. Theoretical Requirements
- 2.1.2. Practical Requirements
- 2.1.3. Programming

2.2. Emitters, Receptors and Antennae
- 2.2.1. Emitter
- 2.2.2. Receptors
- 2.2.3. Antennae

2.3. General Principles of Radio Transmission
- 2.3.1. Radio Transmission
- 2.3.2. Causality of Radio Communication
- 2.3.3. Radio Frequency Justification

2.4. Use of Radio
- 2.4.1. Guide to Radiophony at Uncontrolled Aerodromes
- 2.4.2. Practical Communication Guide
- 2.4.3. The Q Code
  - 2.4.3.1. Aeronautical
  - 2.4.3.2. Maritime
- 2.4.4. International Alphabet for Radio Communication

2.5. Aeronautical Vocabulary
- 2.5.1. Aeronautical Phrasing Applicable to Drones
- 2.5.2. English-Spanish
- 2.5.3. Spanish-English

2.6. Use of Radio Spectrum Frequencies
- 2.6.1. Definition of the Radio Spectrum
- 2.6.2. CNAF (Spanish National Frequency Allocation Chart)
- 2.6.3. Services

2.7. Aeronautical Mobile Service
- 2.7.1. Limitations
- 2.7.2. Messages
- 2.7.3. Cancellations

2.8. Radio-Telephonic Procedures
- 2.8.1. Language
- 2.8.2. Transmission, Verification and Pronunciation of Numbers
- 2.8.3. Message Transmission Technique

2.9. Communications With Air Traffic Control
- 2.9.1. Communications and Listening
- 2.9.2. Communications Failure in Airfield Traffic
- 2.9.3. Communications Failure in VMC or at Night

2.10. Air Transit Services
- 2.10.1. Classification of Airspace
- 2.10.2. Aeronautical Information Documents: NOTAM and AIP
- 2.10.3. Organization of ATS in Spain
- 2.10.4. Controlled, Uncontrolled and Segregated Airspace
- 2.10.5. ATC Instructions

Module 3. Engineering Technology in Flight

3.1. Particularities
- 3.1.1. Aircraft Description
- 3.1.2. Motor, Propeller and Rotor(s)
- 3.1.3. Three-View Plan
- 3.1.4. Systems That Form Part of the RPAS (Ground Control Station, Catapults, Nets, Additional Information Displays, etc.)

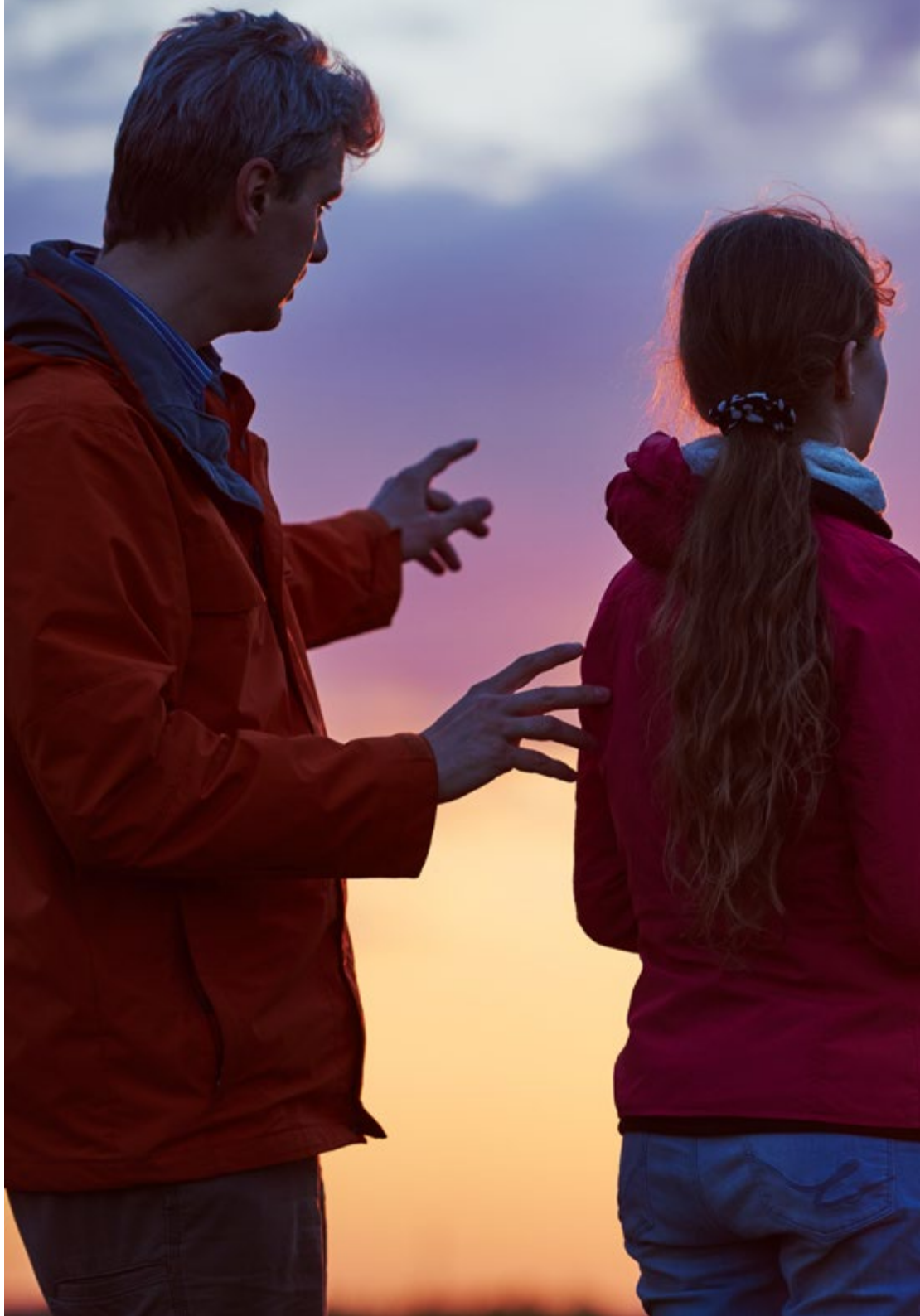
3.2. Limitations
- 3.2.1. Mass
  - 3.2.1.1. Maximum Mass
- 3.2.2. Speeds
  - 3.2.2.1. Maximum Speed
  - 3.2.2.2. Loss of Speed
- 3.2.3. Limitations of Altitude and Distance
- 3.2.4. Maneuvering Load Factor
- 3.2.5. Mass and Centering Limits
- 3.2.6. Authorized Maneuvers
- 3.2.7. Drive Unit, Propellers and Rotor, If Applicable

3.2.8. Maximum Potential
3.2.9. Engine, Propeller and Rotor Speed
3.2.10. Environmental Limitations of Use (Temperature, Altitude, Wind and Electromagnetic Environment)

3.3. Abnormal and Emergency Procedures
3.3.1. Engine Failure
3.3.2. Restarting an Engine in Flight
3.3.3. Fire
3.3.4. Gliding
3.3.5. Self-Rotation
3.3.6. Emergency Landing
3.3.7. Other Emergencies
3.3.7.1. Loss of a Means of Navigation
3.3.7.2. Loss of Connection With Flight Control
3.3.7.3. Others
3.3.8. Safety Devices

3.4. Normal Procedures
3.4.1. Pre-Flight Revision
3.4.2. Commissioning
3.4.3. Take-Off
3.4.4. Cruise Control
3.4.5. Hovering
3.4.6. Landing
3.4.7. Engine Shutdown After Landing
3.4.8. After-Flight Revision

3.5. Loans
3.5.1. Take-Off
3.5.2. Limit of Crosswind at Take-off
3.5.3. Landing
3.5.4. Limit of Crosswind When Landing



3.6. Weight and Centering. Equipment
- 3.6.1. Reference Unladen Mass
- 3.6.2. Vacuum Reference Centering
- 3.6.3. Configuration for the Determination of Mass in Vacuum
- 3.6.4. List of Equipment

3.7. Assembly and Adjustment
- 3.7.1. Instructions for Assembly and Adjustment
- 3.7.2. List of User-Accessible Settings and Consequences on Flight Characteristics
- 3.7.3. Impact of the Installation of Any Special Equipment Related to a Particular Use

3.8. *Software*
- 3.8.1. Identification of Versions
- 3.8.2. Verification of its Correct Functioning
- 3.8.3. Updates
- 3.8.4. Programming
- 3.8.5. Aircraft Adjustments

3.9. Safety Study for Declarative Operations
- 3.9.1. Records
- 3.9.2. Methodology
- 3.9.3. Operations Description
- 3.9.4. Risk Evaluation
- 3.9.5. Conclusions

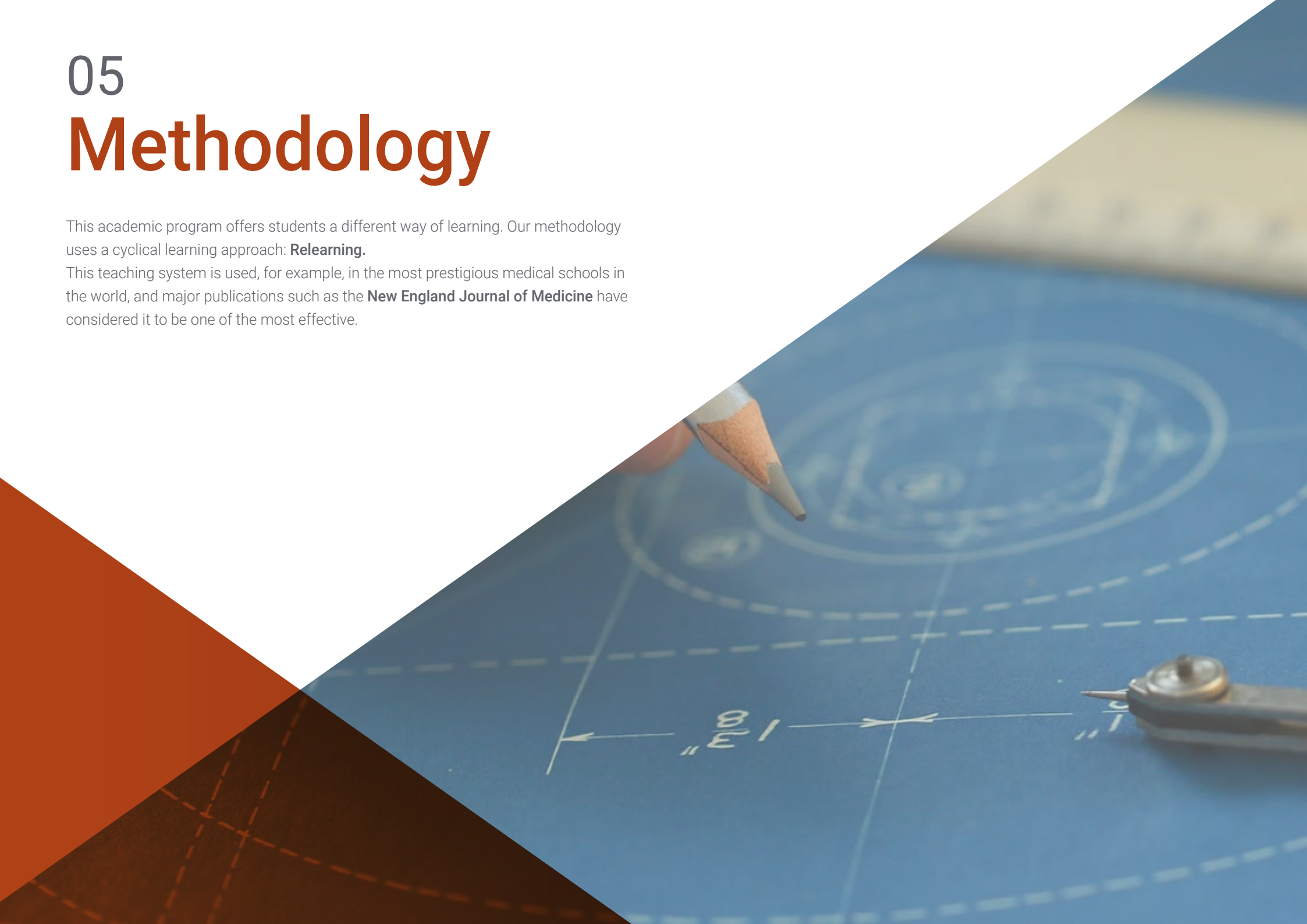
3.10. Applicability: From Theory to Practice
- 3.10.1. Flight Syllabus
- 3.10.2. Expert Testing
- 3.10.3. Maneuvers

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

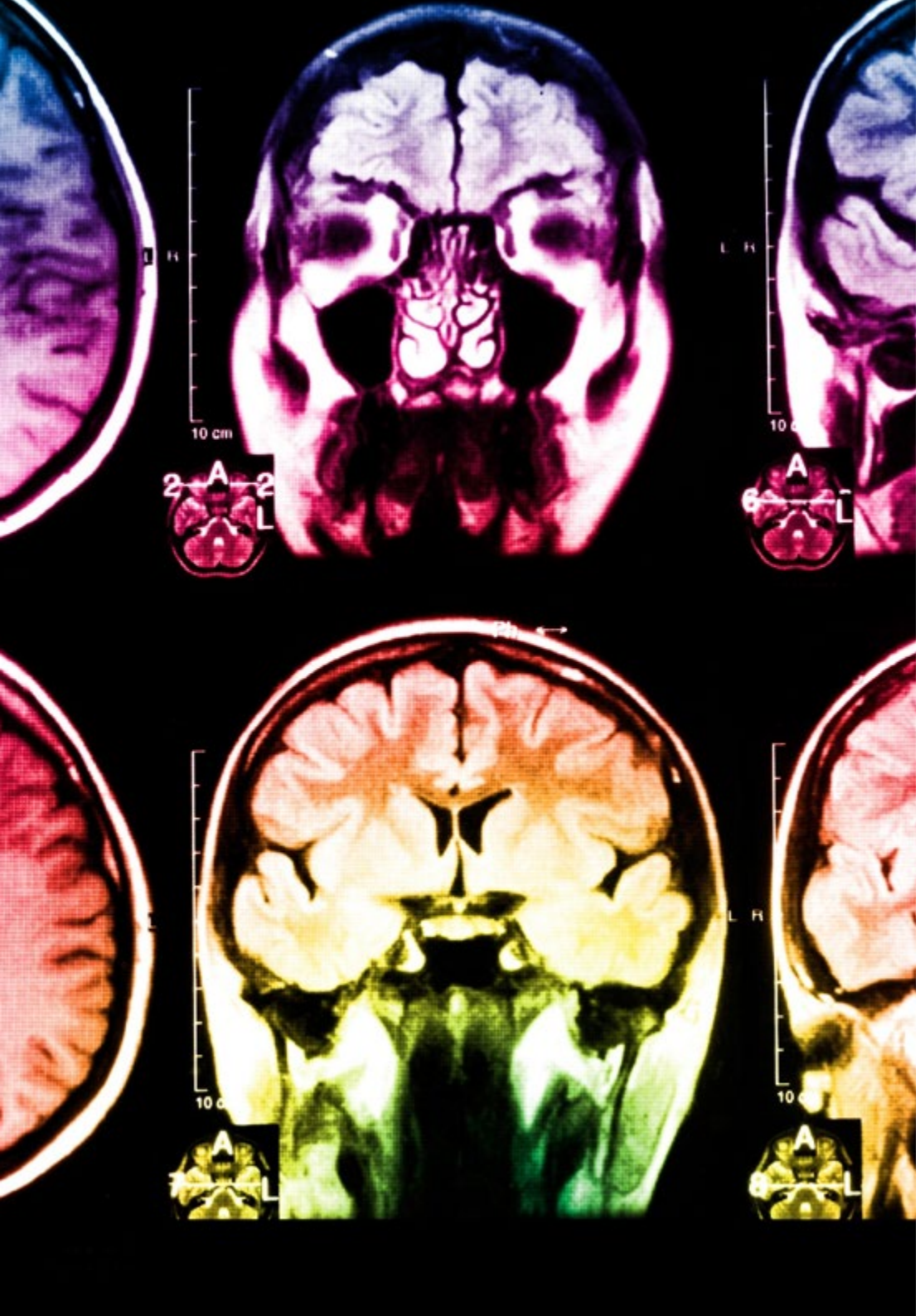
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

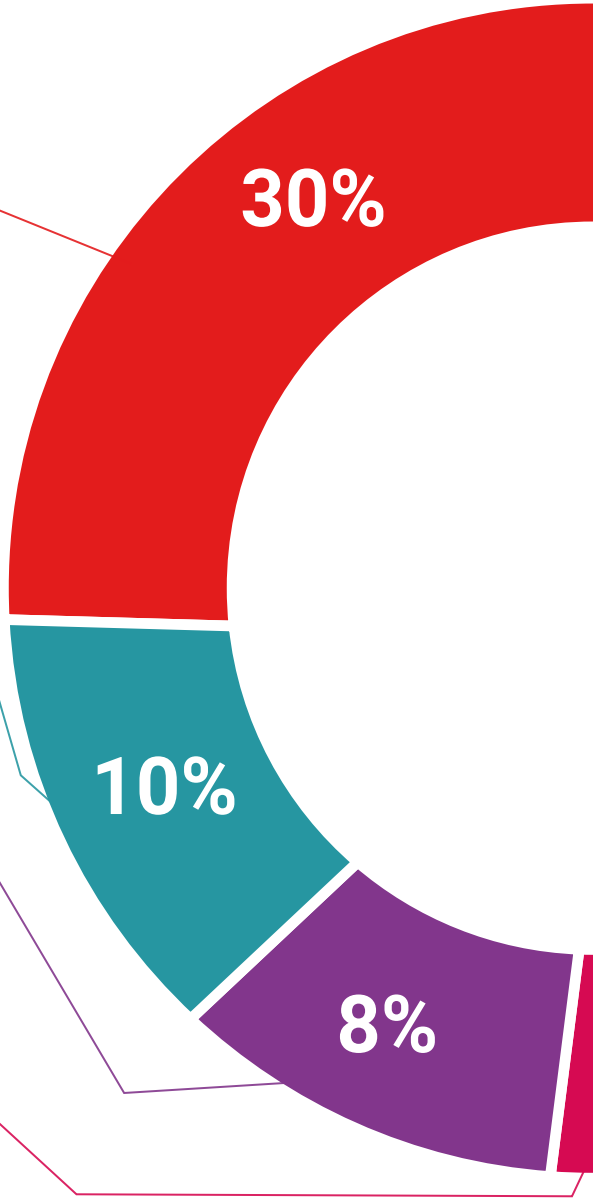
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

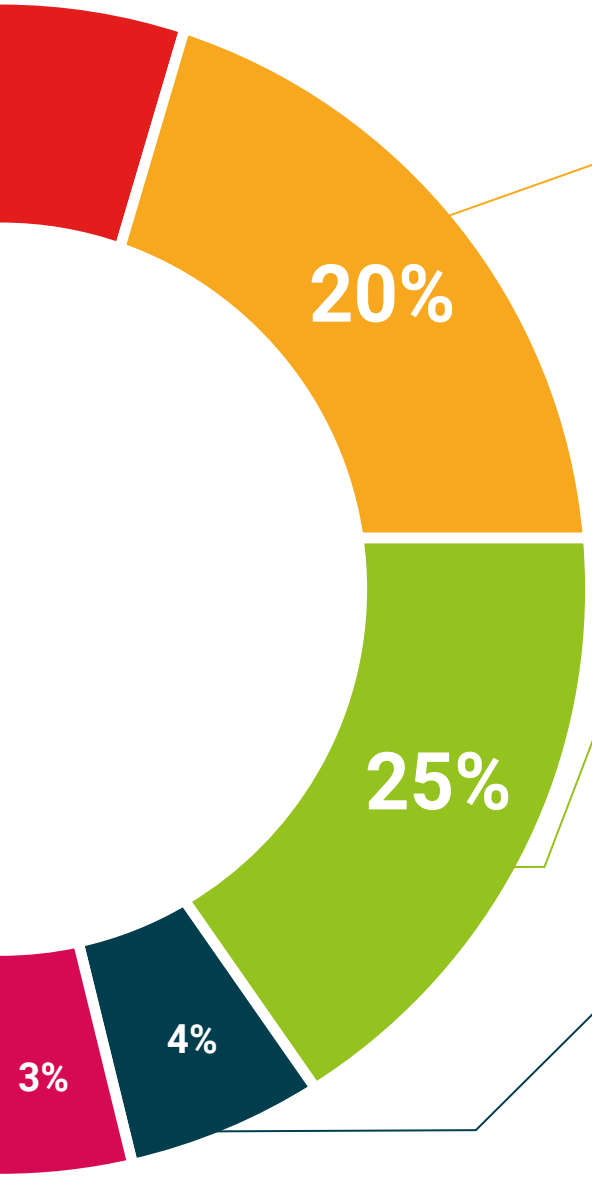
Practising Skills and Abilities

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 Diploma in Drone Flight guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate 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 **Postgraduate Diploma in Drone Flight** 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: **Postgraduate Diploma in Drone Flight**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**


tech global university

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

Postgraduate Diploma in Drone Flight

This is a program of 450 hours of duration equivalent to 18 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

*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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