Professional Master's Degree
Drone Piloting

tech technological university

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Professional Master's Degree
Drone Piloting

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/professional-master-degree/master-drone-piloting**

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01

Introduction

The multiple uses of drones in a wide range of fields have meant that capturing an image from the air is only a small part of the possibilities offered by this new technology. As such, it is already used in security, surveillance, scientific research in difficult to access areas, goods distribution or crop control. In this scenario the demand for engineering professionals specialized in its design and, specifically, its piloting, is increasing. A boom that opens up new job possibilities, which nevertheless require exhaustive knowledge. Knowledge that can be with this 100% online program, taught by specialists who have poured their extensive expertise into a syllabus that will delve into navigation and map interpretation, flight engineering technology and current legal regulations.

Thanks to this Professional Master's Degree, you will obtain the necessary knowledge to develop your professional career as a drone pilot. Enroll now"

Drones are at the service of sectors such as agriculture, industry, audiovisual or construction, where they allow more precise inspection, control, surveillance, monitoring or emission of images of areas with a completely different perspective for humans. Although piloting them may seem simple given the size of the devices, piloting drones requires knowledge of aeronautics, as well as of the current legal regulations in order not to fall into infractions due to their misuse.

The increase in the number of drones and their functionalities has led companies around the world not only to invest in the manufacture and design of drones, but also to demand qualified personnel to fly them. This is an excellent opportunity for engineering professionals to advance in this emerging technological field. This Professional Master's Degree precisely provides an advanced body of knowledge on drone piloting, as well as the use of this technology in goods transportation, rescue missions or aerial photography.

Likewise, over the course of this 12-month program, professionals will acquire knowledge of both operational and safety aspects. They will also delve into the ways to facilitate legal regulation compliance, the study and analysis of meteorology that provides specific knowledge of flight safety or unmanned aerial platform operations and procedures. All this will be provided by means of innovative multimedia content complemented by practical case simulations, which will shape a much more direct and clear vision of drone piloting.

A Professional Master's Degree taught exclusively online and flexible mode, which gives the professional the opportunity to access from and when you want to a university education that is at the academic forefront. It only requires a computer or tablet with an Internet connection to connect to the virtual campus where the syllabus is hosted. With no classroom attendance or classes with fixed schedules, students are faced with a program that gives them the option of taking it comfortably.

This **Professional Master's Degree in Drone Piloting** 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 eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

Thanks to this Professional Master's Degree you will obtain the necessary knowledge to develop your professional career as a Drone Pilot. Enroll now"

A Professional Master's Degree that will allow you to learn how to transport goods using drones. Enroll now"

You have at your disposal 24 hours a day an advanced syllabus that will allow you to know which are the optimal weather conditions to fly drones.

It delves into the most relevant human factors that influence teamwork in remotely piloted aircraft.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

TECH has designed this Professional Master's Degree with the objective of providing engineering professionals with the necessary education to design, implement and work on innovation projects in renewable energies, fully knowing everything related to the industry and the meteorological and communication aspects in the international arena. The experienced team that teaches on the program will support the students to successfully achieve these goals.

In 12 months, you will have obtained the necessary knowledge to become a professional drone pilot. Enroll now"

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 indications of the manufacturer's maintenance manual 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

Module 1. Navigation and Interpretation of Maps

- 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

Module 2. Meteorology

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

Module 3. Human Factors for Remotely Piloted Aircraft

- Acquire an integrated vision of aviation psychology and medicine
- Gain in-depth knowledge of the situational causes and consequences related to the remote pilot profession
- Adapt to new work situations generated as a result of the means and aeronautical techniques used, labor relations and other aspects related to the specialization
- Maintain fluid relations with the members of the functional group in which they are integrated, taking responsibility for the achievement of the objectives assigned to the group, respecting the work of others, organizing and directing collective tasks and cooperating in overcoming the difficulties that arise
- Solve problems and make decisions within the scope of the achievements of subordinates and specialists themselves, within the framework of established rules and plans

Module 4. 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 the aerial activities will be developed
- Understand the responsibility of being flight personnel, both Pilots and Observers
- 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 5. Communications

- Define and know 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 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 practice distress procedures, description and practice of procedures, adnger condition, content of distress messages, radio silence and powers of the competent authority
- Prioritize and implement emergency procedures

Module 6. Dangerous Goods and Aviation

- Develop a critical capacity in accordance with the legal procedures to comply with legislation
- Establish the appropriate procedures for this type of goods, as a fundamental basis for the specialized transportation requirements
- Identify possible anomalies, intentional or unintentional, and take action to protect the integrity of people and property
- Provide technological procedures in order to optimize the processes necessary dangerous goods transportation

Module 7. 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

Module 8. Integration of Drones for Industry and Practical Uses

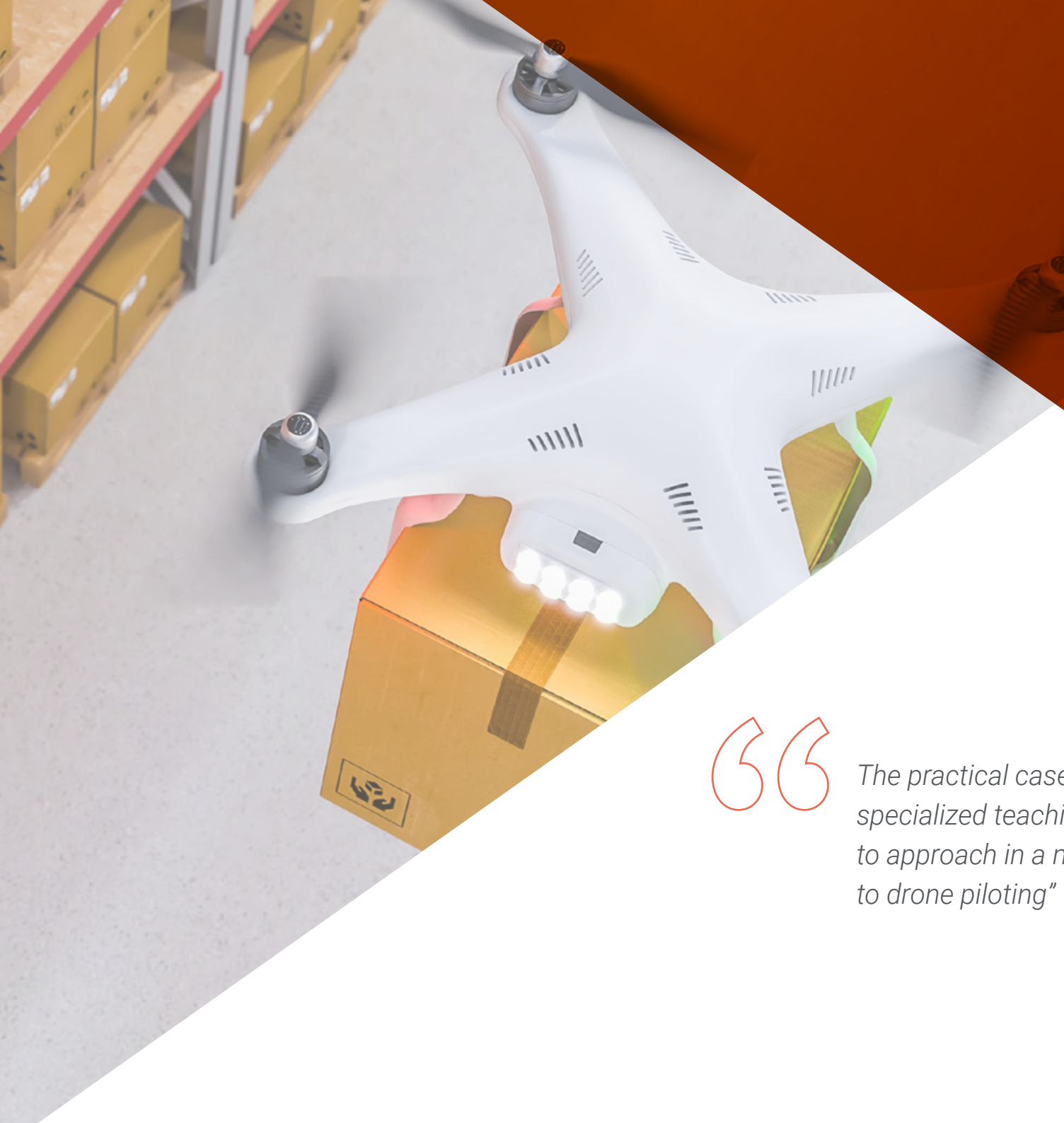
- Applying specific procedures to aerial filming
- Design and organize, in order to implement, the most concrete ways of acting. Act in order to obtain the desired final product: images in air and on land; indoor and outdoor
- Perform a variety of tasks applied to technical and scientific work: filming, risk assessment, inspections, surveillance and security, and search and rescue using advanced engineering techniques
- Manage the images generated in the various scenarios in a complete and specific way
- Prepare formats for different purposes: conversion, delivery to the final customer, social networks

A program designed to provide you with the latest advances in drone navigation for safety and inspection purposes"

03

Skills

The graduate who completes this university degree will have acquired, at the end of this program, competencies and skills that will help them to progress in the drone industry. A field that requires professionals who are able to manage optimally and with a global vision of the drone flight environment. Students will be able to broaden their attitudes thanks to the innovative teaching methodology used by TECH in all its programs.



The practical cases provided by the specialized teaching team will lead you to approach in a much more direct way to drone piloting"

General Skills

- Master the global drone flight environment from the international context and markets, to project development, operation and maintenance plans and sectors such as insurance and asset management
- Apply acquired knowledge and problem-solving skills in current or unfamiliar environments within broader drone flight contexts
- Integrate knowledge and gain a deeper vision of the different uses of drones, as well as the importance of their use in today's world
- Know how to communicate design, development and management concepts of the different drone flight systems
- Understand and internalize the scope of digital and industrial transformation applied to drone flight systems for efficiency and competitiveness in today's market
- Critically analyze, evaluate and synthesize new and complex ideas related to the field of drone flights
- Be able to promote, in professional contexts, technological, social or cultural progress within a knowledge-based society

Specific Skills

- Perform safe flights being familiar with normal and emergency aeronautical procedures, applying and respecting the legislation in force
- Implement aeronautical communication in the environment, complying with the specific aeronautical authority regulations
- Manage the flight trajectory safely, both automatically and manually, in compliance with the regulatory framework
- Analyze the different situations in various potential scenarios for safe decision-making
- Manage workloads effectively
- Select the technical documentation required according to the operation to be performed, complying with specific aeronautical regulations
- Adapt the procedures to the constant regulatory and technological changes, complying with specific aeronautical regulations
- Possess a high capacity for constant learning
- Perform actions related to the organization and management of mandatory basic maintenance
- Access and/or expand the professional environment in technical operations or aerial work

04

Course Management

TECH has recruited an extensive teaching team specialized in drone piloting for this program. In addition to possessing the required knowledge and qualifications, this team of professionals is backed by their extensive experience in the world of drone piloting. A teaching staff that will transmit the necessary knowledge for students to progress in one of the most momentous technological fields in the last years.

A team of professionals specialized in drone flights will guide you to advance in a growing field"

Management

Dr. 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

Dr. Bazán González, Gerardo

- Electronic Engineer
- Founder and CEO of DronesSkycam
- Senior Managing Consultant at FlatStone Energy Partners Ltd
- Managing Director and Consultant at ON Partners Mexico
- Deputy Director of Industrial Development of Hydrocarbons
- Author of publications related to the global energy industry
- Graduate in Electronic Engineering
- Master's Degree in Engineering Project Management from the University of Birmingham

Professors

Dr. Fernández Moure, Rafael

- Drone Pilot and Airport Security Expert
- Head of Administration at Swissport
- Deputy Ramp Manager and Training Manager at Eurohandling SL and Air España Líneas Aéreas
- Drone Pilot at Eventdron
- Check-in Supervisor at Air España
- Advanced Aircraft Pilot Course by European Flyers
- Practical RPAS Pilot Course (Multirotor 5 KG) by European Flyers
- Radio Operator Course for Remote Pilots by European Flyers

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

05

Structure and Content

Students who take part in this online program will have at their disposal an advanced syllabus developed by a specialized teaching team that shows a theoretical and practical vision of drone piloting. The syllabus is also composed of video summaries, detailed videos, interactive diagrams or specialized readings, which will allow students to advance more fluidly. What is more, the Relearning system, used by TECH on all its programs, will enable engineers to progress in a more natural way, even reducing long study hours that are so common to other teaching methodologies.

An intensive program that will bring you up to speed with in-flight engineering technology"

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. GNSS. Use and Limitations
- 1.6.1. Description
- 1.6.2. Operation
- 1.6.3. Control and Accuracy. Limitations

1.7. GPS
- 1.7.1. Fundamentals and Functions of GLONASS and GPS
- 1.7.2. Differences Between GLONASS and GPS
- 1.7.3. GPS

Module 2. Meteorology

2.1. Abbreviations
- 2.1.1. Definition
- 2.1.2. Abbreviations Applied to Aviation
- 2.1.3. Abbreviations and Definitions of the MET Services Guide

2.2. The Atmosphere
- 2.2.1. Thesis. Layers of the Atmosphere
- 2.2.2. Temperature, Density and Pressure
- 2.2.3. Cyclone. Anticyclone

2.3. Altimetry
- 2.3.1. Particularities and Fundamentals
- 2.3.2. Calculations with Instruments
- 2.3.3. Calculations without Instruments

2.4. Atmospheric Phenomena
- 2.4.1. Wind
- 2.4.2. Clouds
- 2.4.3. Fronts
- 2.4.4. Turbulence
- 2.4.5. Wind Shear

2.5. Visibility
- 2.5.1. Visibility on the Ground and in Flight
- 2.5.2. VMC Conditions
- 2.5.3. IMC Conditions

2.6. Meteorological Information
- 2.6.1. Low Elevation Charts
- 2.6.2. METAR
- 2.6.3. TAF
- 2.6.4. SPECI

2.7. Meteorological Previsions
- 2.7.1. TREND
- 2.7.2. SIGMET
- 2.7.3. GAMET
- 2.7.4. AIRMET

Module 3. Human Factors for Remotely Piloted Aircraft

3.1. Aeronautical Psychology
- 3.1.1. Definition
- 3.1.2. Principles and Functions
- 3.1.3. Objectives

3.2. Positive Psychology
- 3.2.1. Definition
- 3.2.2. FORTE Model
- 3.2.3. FLOW Model
- 3.2.4. PERMA Model
- 3.2.5. EXPANSION Model
- 3.2.6. Potentialities

3.3. Medical Requirements
- 3.3.1. Limitations in Europe
- 3.3.2. Classification
- 3.3.3. Periods of Validity of Aeronautical Medical Certificates

3.4. Concepts and Good Practice
- 3.4.1. Objectives
- 3.4.2. Domains
- 3.4.3. Standards
- 3.4.4. Considerations
- 3.4.5. Procedures
- 3.4.6. Drugs
- 3.4.7. Vision
- 3.4.8. Clinical Aspects

3.5. The Senses
- 3.5.1. The View
- 3.5.2. Structure of the Human Eye
- 3.5.3. Hearing: Definition and Schema

3.6. Situational Conscience
- 3.6.1. The Effect of Disorientation
- 3.6.2. The Illusion Effect
- 3.6.3. Other Exogenous and Endogenous Effects

3.7. Communication
- 3.7.1. Thesis
- 3.7.2. Factors of Communication
- 3.7.3. Elements of Communication
- 3.7.4. Assertiveness

3.8. Workload Management. Human Performance
- 3.8.1. Background and Consequences
- 3.8.2. Stress of General Adaptation Syndrome
- 3.8.3. Causes, Stages and Effects
- 3.8.4. Prevention

3.9. Teamwork
- 3.9.1. Description of Teamwork
- 3.9.2. Characteristics of Teamwork
- 3.9.3. Leadership

3.10. Health Aspects That Could Affect the RPAS Pilot
- 3.10.1. Disorientation
- 3.10.2. Illusions
- 3.10.3. Illnesses

Module 4. Operational Procedures

4.1. Operational Procedures of Flight
- 4.1.1. Operative Definition
- 4.1.2. Acceptable Means
- 4.1.3. Operational Procedure of the Flight

4.2. Operations Manual
- 4.2.1. Definition
- 4.2.2. Content
- 4.2.3. Index

4.3. Operational Scenarios
- 4.3.1. Justification

4.3.2. Standard Scenarios
4.3.2.1. For Night Flight: STSN01
4.3.2.2. For Flight in a Controlled Airspace: STSE01
4.3.2.3. Urban Scenarios
4.3.2.3.1. For Flights in Built-Up Areas: STSA01
4.3.2.3.2. Flights in Built-Up Areas and a Controlled Airspace: STSA02
4.3.2.3.3. Flights in Built-Up Areas and an Atypical Airspace: STSA03
4.3.2.3.4. For Flight in Built-Up Areas, a Controlled Airspace and Night Flight: STSA04
4.3.3. Experimental Scenarios
4.3.3.1. Experimental Flights in BVLOS in Segregated Airspace for Aircraft Weighing Less Than 25kg: STSX01
4.3.3.2. Experimental Flights in BVLOS in Segregated Airspace for Aircraft Weighing More Than 25kg: STSX02

4.4. Limitations Related to the Space in Which Its Operated
4.4.1. Maximum and Minimum Altitudes
4.4.2. Limitations of Maximum Distance of Operation
4.4.3. Meteorological Conditions

4.5. Operation Limitations
4.5.1. Relative to the Pilot
4.5.2. Relative to the Area of Protection and the Recovery Zone
4.5.3. Relative to the Objects and Dangerous Substances
4.5.4. Related to Flying Facilities

4.6. Flight Personnel
4.6.1. The Pilot in Charge
4.6.2. The Observer
4.6.3. The Operator

4.7. Operation Supervision
4.7.1. The Operation Manual
4.7.2. Objectives
4.7.3. Responsibility

4.8. Prevention of Accidents
4.8.1. The Operation Manual
4.8.2. General Security Checklist
4.8.3. Particular Security Checklist

4.9. Other Mandatory Compliance Procedures
4.9.1. Flight Time Records
4.9.2. Maintaining Remote Pilot Aptitude
4.9.3. Maintenance Records
4.9.4. Procedure to Obtain the Airworthiness Certificate
4.9.5. Procedure to Obtain Special Certification for Experimental Flights

4.10. Procedure to Become an Operator
4.10.1. Qualification Procedure: Prior Communication
4.10.2. Procedure to Become an Operator: Specialized Air Operations or Experimental Flights
4.10.3. Operator Deregistration and Prior Notification

Module 5. Communications

5.1. Radiophonist Qualification for Remote Pilots
5.1.1. Theoretical Requirements
5.1.2. Practical Requirements
5.1.3. Programming

5.2. Emitters, Receptors and Antennae
5.2.1. Emitter
5.2.2. Receptors
5.2.3. Antennae

5.3. General Principles of Radio Transmission
5.3.1. Radio Transmission
5.3.2. Causality of Radio Communication
5.3.3. Radio Frequency Justification

5.4. Use of Radio
5.4.1. Guide to Radiophony at Uncontrolled Aerodromes
5.4.2. Practical Communication Guide
5.4.3. The Q Code

5.4.3.1. Aeronautical
5.4.3.2. Maritime
5.4.4. International Alphabet for Radio Communication
5.5. Aeronautical Vocabulary
5.5.1. Aeronautical Phrasing Applicable to Drones
5.6. Use of Radio Spectrum Frequencies
5.6.1. Definition of the Radio Spectrum
5.6.2. CNAF (Spanish National Frequency Allocation Chart)
5.6.3. Services
5.7. Aeronautical Mobile Service
5.7.1. Limitations
5.7.2. Messages
5.7.3. Cancellations

Module 6. Dangerous Goods and Aviation

6.1. Application
6.1.1. General Philosophy
6.1.1.1. Definition
6.1.1.2. Historical Review
6.1.1.3. General Philosophy
6.1.1.4. Air Security in the Transport of Dangerous Goods
6.1.1.5. Training
6.1.2. Regulation
6.1.2.1. Basis of Regulation
6.1.2.2. Aim of Regulation on Dangerous Goods
6.1.2.3. Structure of DGR
6.1.2.4. Application of the Regulation
6.1.2.5. Realationship With ICAO
6.1.2.6. Applicable Regulations in the Air Transport of Dangerous Goods
6.1.2.7. IATA Regulations on Dangerous Goods
6.1.3. Application for Unmanned Aviation: Drones
6.2. Limitations
6.2.1. Limitations
6.2.1.1. Prohibited Goods

6.2.1.2. Goods Allowed Under Waiver
6.2.1.3. Goods Allowed as Air Cargo
6.2.1.4. Acceptable Goods
6.2.1.5. Exempt Goods
6.2.1.6. Plane Equipment
6.2.1.7. On-Board Consumption Goods
6.2.1.8. Goods in Excepted Quantities
6.2.1.9. Goods in Limited Quantities
6.2.1.10. Provisions for Dangerous Goods Carried by Passengers or Crew
6.2.2. Variations Among States
6.2.3. Variations Among Operators
6.3. Classification
6.3.1. Classification
6.3.1.1. Class 1. Explosives
6.3.1.2. Class 2. Gases
6.3.1.3. Class 3. Flammable Liquids
6.3.1.4. Class 4. Flammable Solids
6.3.1.5. Class 5. Oxidizing Substances and Organic Peroxides
6.3.1.6. Class 6. Toxic and Infectious Substances
6.3.1.7. Class 7. Radioactive Materials
8.3.1.8. Class 8. Corrosives
6.3.1.9. Class 9. Miscellaneous or Assorted Goods
6.3.2. Exceptions: Permitted Goods
6.3.3. Exceptions: Prohibited Goods
6.4. Identification
6.4.1. Identification
6.4.2. Dangerous Goods List
6.4.3. Name of Item Shipped
6.4.4. Generic Name (NPE)
6.4.5. Mixtures and Solutions
6.4.6. Special Provisions
6.4.7. Quantity Limitations
6.5. Packaging
6.5.1. Packaging Instructions
6.5.1.1. Introduction
6.5.1.2. General Conditions for All Classes Except Class 7
6.5.1.3. Compatibility Requirements
6.5.2. Packaging Groups
6.5.3. Packaging Brands
6.6. Packaging Specifications
6.6.1. Packaging Specifications
6.6.1.1. Features
6.6.1.2. Interior Packaging Features
6.6.2. Packaging Tests
6.6.2.1. Suitability Testing
6.6.2.2. Preparation of Packaging for the Tests
6.6.2.3. Area of Impact
6.6.2.4. Stacking Test
6.6.3. Test Reports
6.7. Marked and Labeled
6.7.1. Marked
6.7.1.1. Specifications and Requirements of Marking
6.7.1.2. Packaging Specification Marks
6.7.2. Labeling
6.7.2.1. The Need to Put Labels
6.7.2.2. Attaching the Labels
6.7.2.3. Labeling on Packaging
6.7.2.4. Labeling of Class or Division
6.7.3. Labeling Specifications
6.8. Documentation

6.8.1. Shipper's Declaration
6.8.1.1. Cargo Acceptance Procedure
6.8.1.2. Acceptance of Dangerous Goods by the Operator
6.8.1.3. Verification and Acceptance
6.8.1.4. Acceptance of Containers and Cargo Units
6.8.1.5. Shipper's Declaration
6.8.1.6. Air Waybill
6.8.1.7. Conservation of Documents
6.8.2. NOTOC
6.8.2.1. NOTOC
6.8.3. Event, Accidents and Incidents Report
6.9. Management
6.9.1. Management
6.9.1.1. Storage
6.9.1.2. Incompatibilities
6.9.2. Stowage
6.9.2.1. Handling Packages Containing Liquid Dangerous Goods
6.9.2.2. Loading and Securing of Dangerous Goods
6.9.2.3. General Load Conditions
6.9.2.4. Magnetized Material Load
6.9.2.5. Dry Ice Load
6.9.2.6. Stowage of Living Animals
6.9.3. Handling Radioactive Goods
6.10. Radioactive Material
6.10.1. Definition
6.10.2. Legislation
6.10.3. Classification
6.10.4. Determination of the Level of Activity
6.10.5. Determination of Other Features of the Material

Module 7. Engineering Technology in Flight

7.1. Particularities
7.1.1. Aircraft Description
7.1.2. Motor, Propeller and Rotor(s)
7.1.3. Three-View Plan
7.1.4. Systems That Form Part of the RPAS (Ground Control Station, Catapults, Nets, Additional Information Displays, etc.)
7.2. Limitations
7.2.1. Mass
7.2.1.1. Maximum Mass
7.2.2. Speeds
7.2.2.1. Maximum Speed
7.2.2.2. Loss of Speed
7.2.3. Limitations of Altitude and Distance
7.2.4. Maneuvering Load Factor
7.2.5. Mass and Centering Limits
7.2.6. Authorized Maneuvers
7.2.7. Drive Unit, Propellers and Rotor, If Applicable
7.2.8. Maximum Potential
7.2.9. Engine, Propeller and Rotor Speed
International Development Cooperation Environmental Limitations of Use (Temperature, Altitude, Wind and Electromagnetic Environment)
7.3. Abnormal and Emergency Procedures
7.3.1. Engine Failure
7.3.2. Restarting an Engine in Flight
7.3.3. Fire
7.3.4. Gliding
7.3.5. Self-Rotation
7.3.6. Emergency Landing
7.3.7. Other Emergencies.
7.3.7.1. Loss of a Means of Navigation

7.3.7.2. Loss of Connection With Flight Control
7.3.7.3. Others
7.3.8. Safety Devices
7.4. Normal Procedures
7.4.1. Pre-Flight Revision
7.4.2. Commissioning
7.4.3. Take-Off
7.4.4. Cruise Control
7.4.5. Hovering
7.4.6. Landing
7.4.7. Engine Shutdown After Landing
7.4.8. After-Flight Revision
7.5. Loans
7.5.1. Take-Off
7.5.2. Limit of Crosswind at Take-off
7.5.3. Landing
7.5.4. Limit of Crosswind When Landing
7.6. Weight and Centering. Equipment
7.6.1. Reference Unladen Mass
7.6.2. Vacuum Reference Centering
7.6.3. Configuration for the Determination of Mass in Vacuum
7.6.4. List of Equipment
7.7. Assembly and Adjustment
7.7.1. Instructions for Assembly and Adjustment
7.7.2. List of User-Accessible Settings and Consequences on Flight Characteristics
7.7.3. Impact of the Installation of Any Special Equipment Related to a Particular Use
7.8. Software
7.8.1. Identification of Versions
7.8.2. Verification of its Correct Functioning
7.8.3. Updates
7.8.4. Programming
7.8.5. Aircraft Adjustments
7.9. Safety Study for Declarative Operations
7.9.1. Records
7.9.2. Methodology
7.9.3. Operations Description
7.9.4. Risk Evaluation
7.9.5. Conclusions
7.10. Applicability: From Theory to Practice
7.10.1. Flight Syllabus
7.10.2. Expert Testing
7.10.3. Maneuvers

Module 8. Integration of Drones for Industry and Practical Uses

8.1. Advanced Air Photography and Video
8.1.1. The Triangle of Exposition
8.1.2. Histograms
8.1.3. Use of Filters
8.1.4. Camera Settings
8.1.5. Delivered to Clients
8.2. Advanced Applications of Photography
8.2.1. Panoramic Photography
8.2.2. Low-Light and Night Shots
8.2.3. Interior Videos
8.3. Drones in the Construction Industry
8.3.1. Expectations of the Industry and Budgets
8.3.2. Solutions
8.3.3. Automated Image Taking
8.4. Risk Assessment With Drones
8.4.1. Air Inspection
8.4.2. Digital Modes
8.4.3. Safety Procedures

8.5. Inspection Work With Drones
- 8.5.1. Inspection of Roofs and Covers
- 8.5.2. The Right Drone
- 8.5.3. Inspection of Paths, Roads, Highways and Bridges

8.6. Surveillance and Security With Drones
- 8.6.1. Principles for Implementing a Program With Drones
- 8.6.2. Factors to Consider When Buying a Drone for Safety
- 8.6.3. Applications and Real Uses

8.7. Search and Rescue
- 8.7.1. Planning
- 8.7.2. Tools
- 8.7.3. Basic Knowledge of the Pilots and Operators for Search and Rescue Missions

8.8. Drones in Precision Agriculture I
- 8.8.1. Particularities of Precision Agriculture
- 8.8.2. Normalized Difference Vegetation Index
  - 8.8.2.1. Visible Atmospheric Resistance Index (VARI)

8.9. Drones in Precision Agriculture II
- 8.9.1. Drones and Applications
- 8.9.2. Drones for Monitoring in Precision Agriculture
- 8.9.3. Techniques Applied in Precision Agriculture

8.10. Drones in Precision Agriculture III
- 8.10.1. Image Acquisition Process for Precision Agriculture
- 8.10.2. Process of Photogrammetry and Application of the Visible Atmospheric Resistance Index
- 8.10.3. Interpretation of the Vegetation Indices

A university program that will provide you with the most comprehensive knowledge of the use of drones in precision agriculture”

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

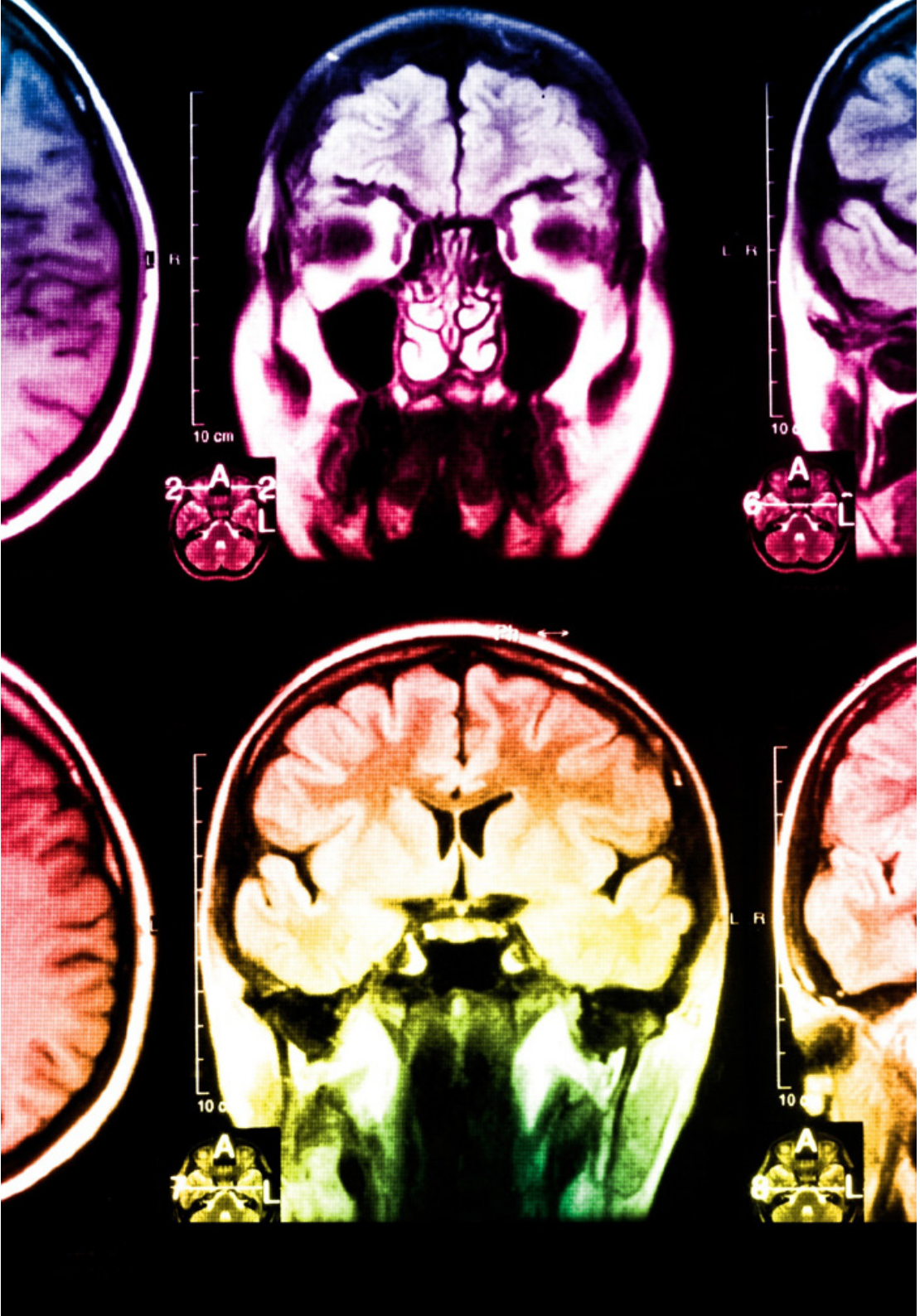
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

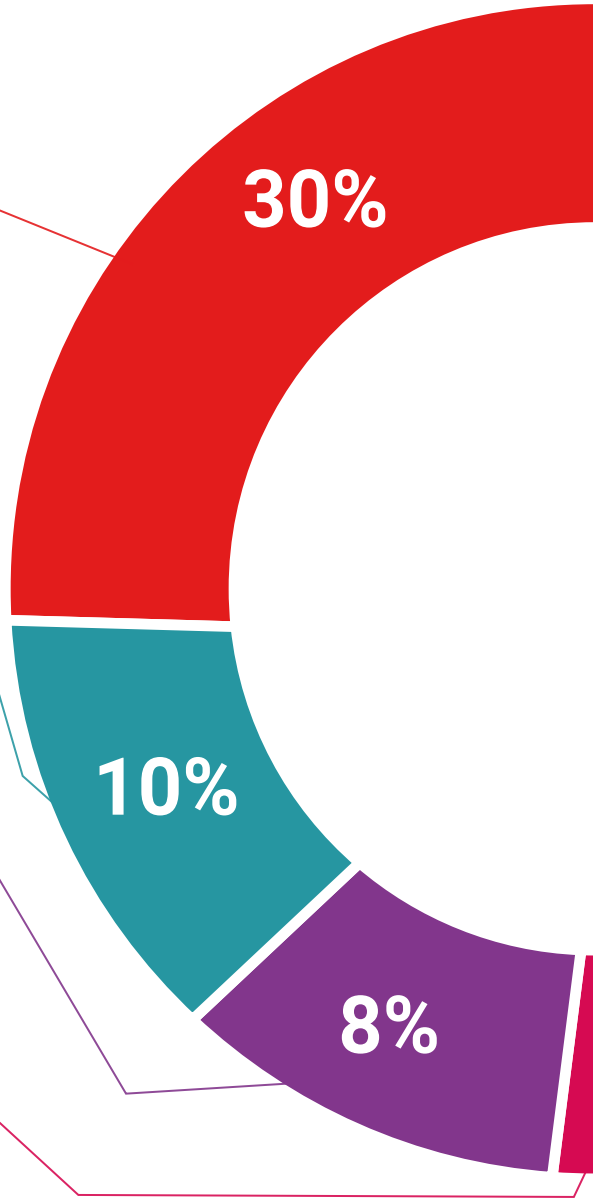
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

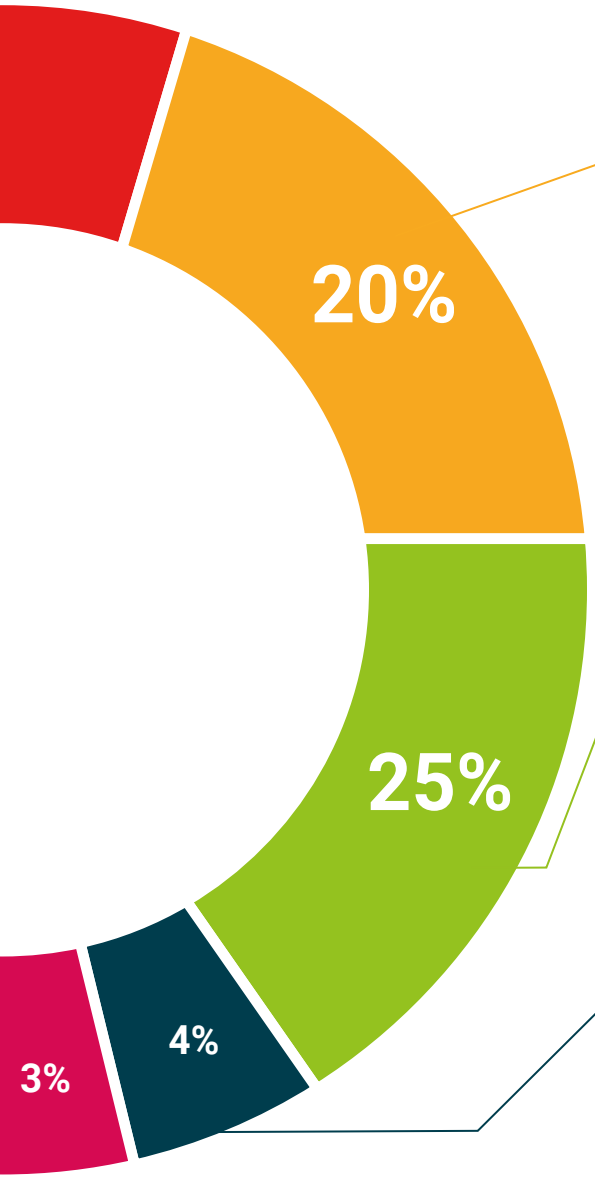
Practising Skills and Abilities

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.

07

Certificate

The Professional Master's Degree in Drone Piloting guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree diploma issued by TECH Technological University.

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

This **Professional Master's Degree in Drone Piloting** contains the most complete and up-to-date educational program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree diploma** issued by **TECH Technological University.**

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Professional Master's Degree in Drone Piloting**

Modality: **online**

Duration: **12 months**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE

in

Drone Piloting

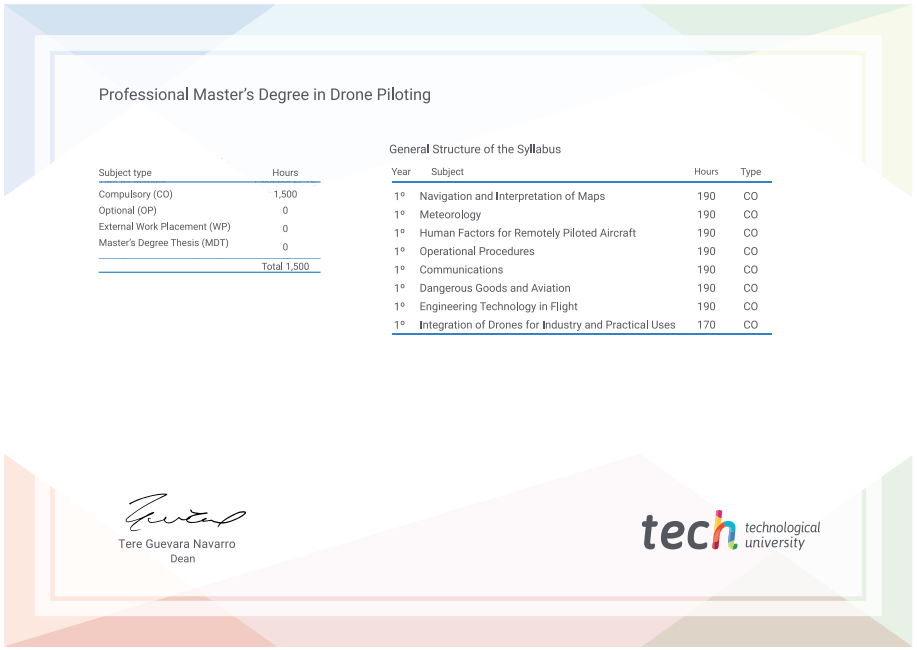
This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
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


Professional Master's Degree in Drone Piloting

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 1,500

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	Navigation and Interpretation of Maps	190	CO
1º	Meteorology	190	CO
1º	Human Factors for Remotely Piloted Aircraft	190	CO
1º	Operational Procedures	190	CO
1º	Communications	190	CO
1º	Dangerous Goods and Aviation	190	CO
1º	Engineering Technology in Flight	190	CO
1º	Integration of Drones for Industry and Practical Uses	170	CO

Tere Guevara Navarro
Dean

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*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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Professional Master's Degree
Drone Piloting

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Drone Piloting

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