

# Postgraduate Certificate

## Robotics, Drones and Augmented Workers





## Postgraduate Certificate Robotics, Drones and Argumented Workers

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

Website: [www.techtitute.com/us/engineering/postgradute-certificate/robotics-drones-and-argumented-workers](http://www.techtitute.com/us/engineering/postgradute-certificate/robotics-drones-and-argumented-workers)

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# 01

# Introduction

The automation of processes, the improvement in the maintenance of infrastructures or the efficiency in the resolution of problems are given by the use of advanced technology such as Robotics, Drones or Argumented Workers. In this sense, their integration into the daily work of many sectors makes it essential for engineers to have a perfect knowledge of these devices, their advantages and possibilities. For this reason, this TECH qualification is born, which leads the graduate to obtain an intensive and global learning for the sake of their professional progression. All this, with a 100% online methodology and specialized content, developed by experts with experience in Industry 4.0. Therefore, it is a unique opportunity to increase the capacity for action in technological innovation projects.





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*Distinguish yourself from other professionals through a Postgraduate Certificate that responds to the real needs of engineers”*

In recent years, the technological revolution has allowed the development and improvement of Robots and Drones with applications in all economic sectors. In this way, the role of the engineer has acquired greater relevance, given their skills for their use in infrastructure inspection tasks, automation of manufacturing processes or monitoring of construction projects.

Therefore, given the continuous evolution in these areas, companies demand specialized profiles with a great mastery and knowledge of these devices, as well as the challenges and opportunities they offer. In this sense, TECH has decided to create this Postgraduate Certificate in Robotics, Drones and Argumented Workers of only 6 weeks duration.

This program brings together the most rigorous and current information on the understanding of RPA (Robotic Process Automation), the implementation of RaaS in companies, the applications of Drones or the integration of Argumented Workers, all this, in addition, complemented with the best teaching tools based on video summaries, videos in detail, specialized readings and case studies.

Likewise, the graduate will not have to invest a great amount of hours memorizing content, since the Relearning method used by this academic institution leads students to focus their efforts on the key elements of this teaching.

Undoubtedly, the engineer is facing an ideal opportunity to increase their capacity for action in their sector through an academic option that can be taken comfortably, whenever and wherever they wish. You only need an electronic device with an Internet connection (mobile, tablet or computer) to be able to visualize, at any time, the syllabus of this program. In this way, you will be able to self-manage your study time more easily and combine your daily personal activities with an avant-garde university proposal.

This **Postgraduate Certificate in Robotics, Drones and Argumented Workers** contains the most complete and up-to-date academic program on the market. Its most notable features are:

- ◆ The development of case studies presented by experts in Digital Transformation and Industry 4.0
- ◆ 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



*During 6 weeks you will increase your knowledge about Robotics, Drones and Argumented Workers"*

“

*With this qualification, you will master all the phases of prototyping”*

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 academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Explore the evolution of Drones and their multiple applications from the comfort of your home.*

*Enroll now in a program that will increase your knowledge of Argumented Worker.*



# 02 Objectives

The theoretical and practical perspective of this Postgraduate Certificate will allow the graduate to obtain a global and useful vision of the current ecosystem of Robotics, Drones and Argumented Workers. In this way, they will acquire knowledge that will lead them to integrate into their engineering projects the latest advances in the field, as well as the most effective techniques to maximize results in the industrial sector. All this, in addition, with the best pedagogical resources of the university panorama.





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*The case studies will lead you to know about the use of cobots in depth”*



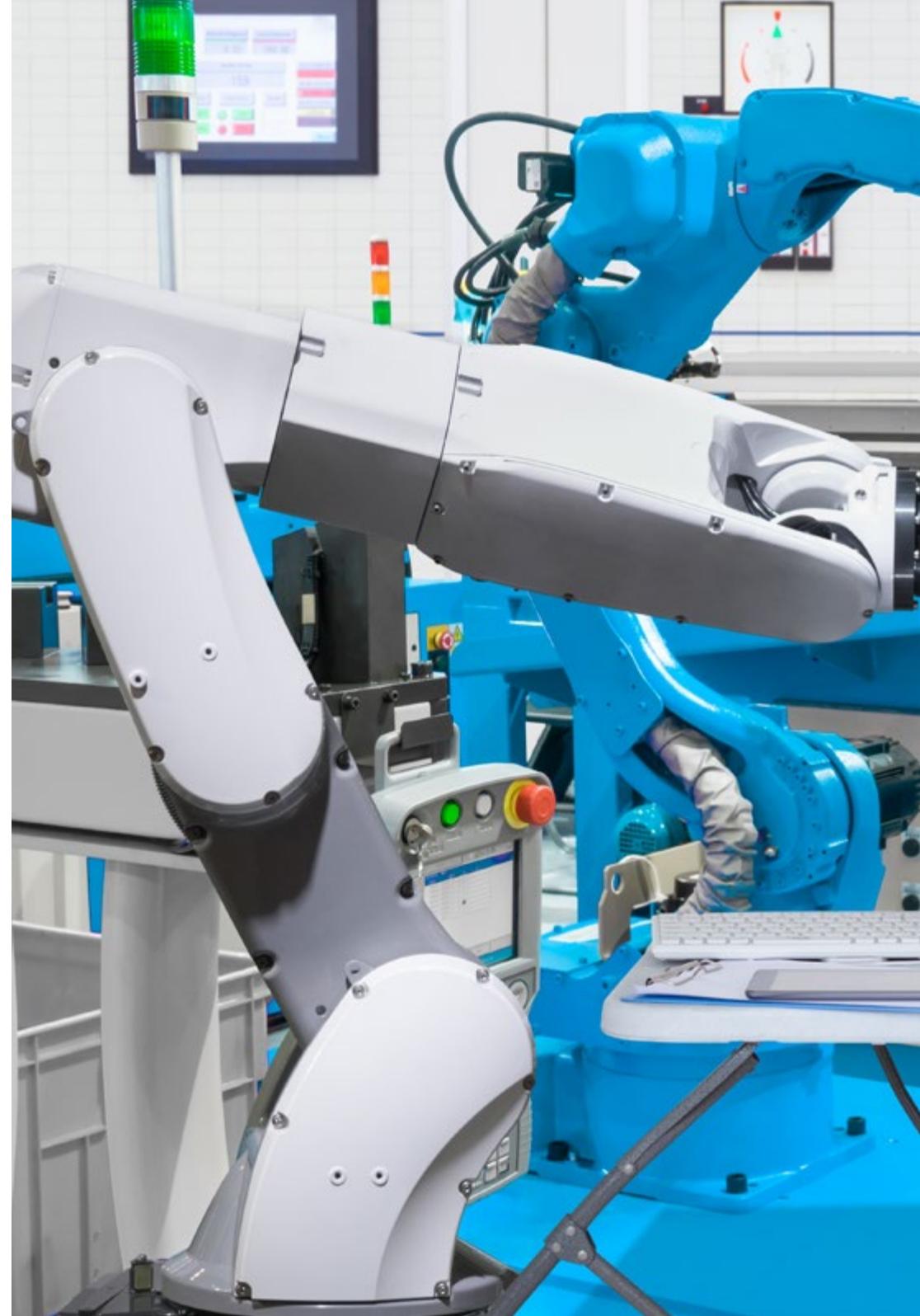
## General Objectives

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- ◆ Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- ◆ Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- ◆ Mastering companies' digitalization procedures and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- ◆ Leading the Digital Change



*Delves into the ethical challenges posed by the current use of robots and Artificial Intelligence in Engineering."*





## Specific Objectives

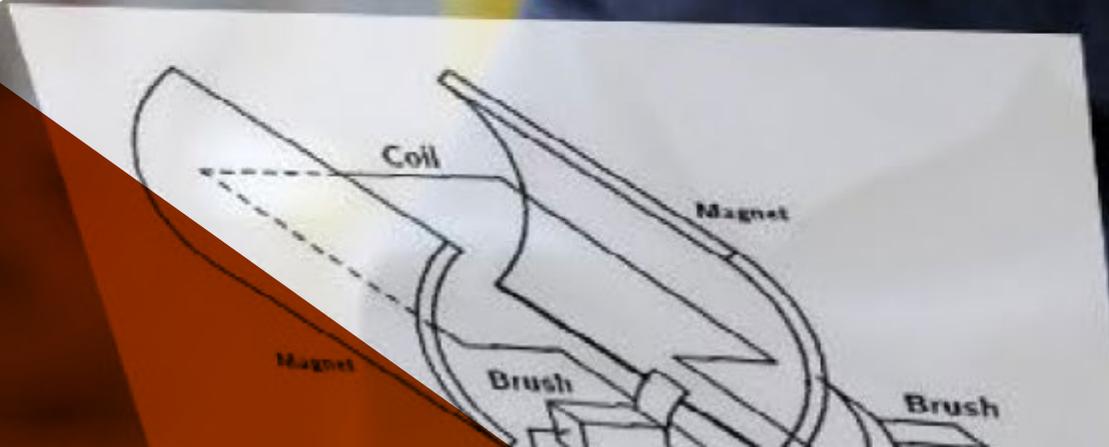
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- ◆ Entering the world of robotics and automation
- ◆ Choose a robotic platform, prototype and know about simulators and robot operating system (ROS) in detail
- ◆ Delve into in the applications of artificial intelligence to robotics oriented to predict behaviors and optimize processes
- ◆ Study robotics concepts and tools, as well as use cases, real examples and integration with other systems and demonstration
- ◆ Analyze the most intelligent robots that will accompany us in the coming years and how humanoid machines will be trained to perform in complex and challenging environments

03

# Course Management

The high competences in the field of digital transformation, the leadership of projects in Industry 4.0 and the mastery of the Internet of Things have been key to the choice of the teaching team that integrates this degree. In this way, the graduate who takes this program will have access to a syllabus based on the deep knowledge of these specialists in Robotics, Drones and Argumented Workers. Students will learn how to increase their field of action in an era marked by technological advances.



“

*You are in front of a program developed by the best specialists in Artificial Intelligence, Digital Transformation and Industry 4.0"*

## Management



### Mr. Segovia Escobar, Pablo

- ♦ Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- ♦ Corporate Project Director Indra
- ♦ Master's Degree in Companies Administration and Management by the National University of Distance Education
- ♦ Postgraduate in Strategic Management Function
- ♦ Member of the English Spanish Association of People with High Intellectual Quotient



### Mr. Diezma López, Pedro

- ♦ Chief Innovation Officer and CEO of Zerintia Technologies
- ♦ Founder of the technology company Acuilae
- ♦ Member of the Kebala Group for business incubation and promotion
- ♦ Consultant for technology companies such as Endesa, Airbus or Telefónica
- ♦ Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety.



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*Get trained at the one of the world's leading private online universities"*

# 04

## Structure and Content

The syllabus of this Postgraduate Certificate brings together, in only 150 teaching hours, the most rigorous and current information on the development of Robotics, advances in the use of Drones and the challenges of human-machine integration in industrial environments. For this, TECH provides the engineer with the most advanced pedagogical resources, in which the latest university teaching technology has been applied.





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*If you have a digital device, you will be able to access the most current content on Robotics and its use in the industrial sector whenever and wherever you want"*

## Module 1. Robotics, Drones and Augmented Workers

- 1.1. Robotics
  - 1.1.1. Robotics, Societies and Cinema
  - 1.1.2. Components and Parts of Robot
- 1.2. Robotics and Advanced Automation: Simulators, Cobots
  - 1.2.1. Transfer of Learning
  - 1.2.2. Cobots and Case Uses
- 1.3. RPA (Robotic Process Automatization)
  - 1.3.1. Understanding RPA and its Functioning
  - 1.3.2. RPA Platforms, Projects and Roles
- 1.4. Robot as a Service (RaaS)
  - 1.4.1. Challenges and Opportunities for Implementing RaaS Services and Robotics in Enterprises
  - 1.4.2. Functioning of a RaaS system
- 1.5. Drones and Automated Vehicles
  - 1.5.1. Components and Drones Operation
  - 1.5.2. Uses, Types and Applications of Drones
  - 1.5.3. Evolution of Drones and Autonomous Vehicles
- 1.6. The Impact of 5G
  - 1.6.1. Evolution of Communications and Implications
  - 1.6.2. Uses of 5G Technology
- 1.7. Augmented Workers
  - 1.7.1. Human-Machine Integration in Industrial Environments
  - 1.7.2. Challenges in Worker-Robot Collaboration
- 1.8. Transparency, Ethics and Traceability
  - 1.8.1. Ethical Challenges in Robotics and Artificial Intelligence
  - 1.8.2. Monitoring, Transparency and Traceability Methods
- 1.9. Prototyping, Components and Evolution
  - 1.9.1. Prototyping Platforms
  - 1.9.2. Phases to Make a Prototype
- 1.10. Future of Robotics
  - 1.10.1. Trends in Robotization
  - 1.10.2. New Types of Robots





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*You will face the future challenges posed by robotization in industry with greater assurance of success”*

05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: Relearning.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the New England Journal of Medicine have considered it to be one of the most effective.





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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

### Case Study to contextualize all content

Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

*At TECH, you will experience a way of learning 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.*



### 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 student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

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 prepare the executives of the future. This method, at the forefront of international teaching, is called *Re-learning*.

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 prepared 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 education, 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 adapted in 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.



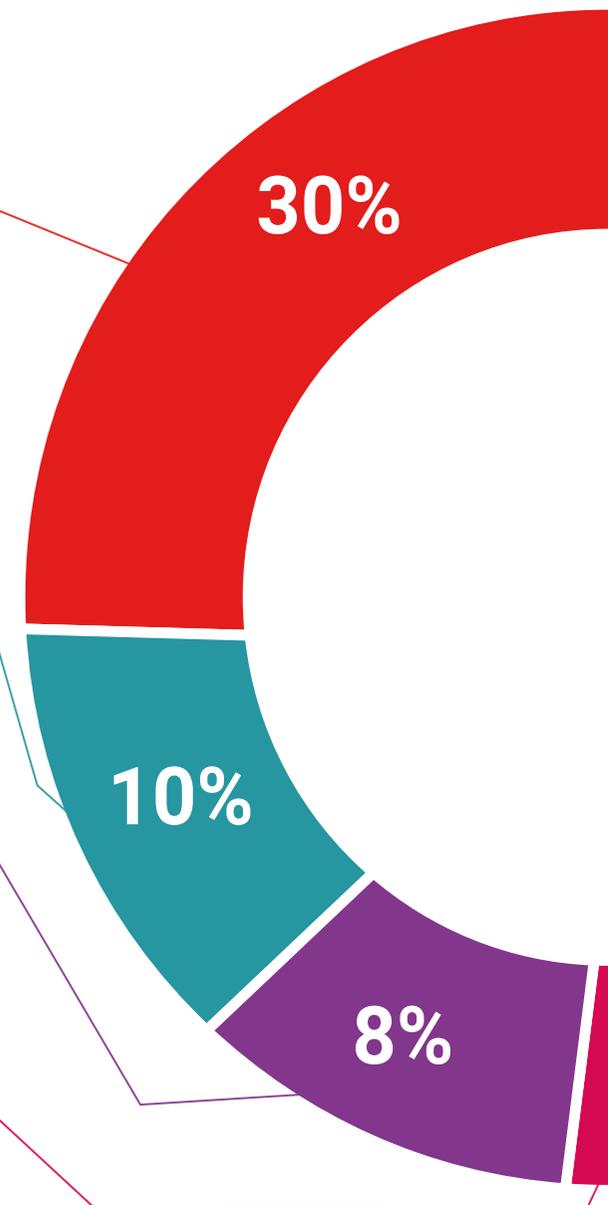
### Practicing Skills and Abilities

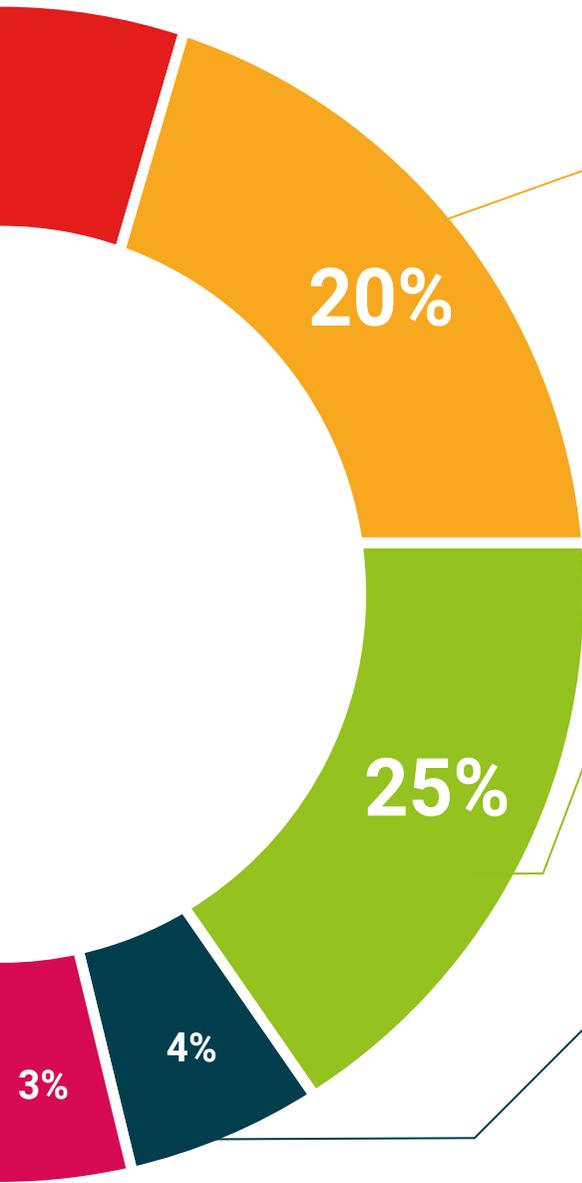
They will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 assess and re-assess 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 Robotics, Drones and Argumented Workers guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This Postgraduate Certificate in Robotics, Drones and Argumented Workerscontains the most complete and up-to-date academic program on the market.

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

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

Title: **Postgraduate Certificate in Robotics, Drones and Argumented Workers**

Official Number of Hours: **150 h.**



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

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
classroom



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