

# Postgraduate Certificate Industry 4.0





## Postgraduate Certificate Industry 4.0

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

Website: [www.techtute.com/in/engineering/postgraduate-certificate/industry-4-0](http://www.techtute.com/in/engineering/postgraduate-certificate/industry-4-0)

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# 01

# Introduction

Connectivity and communication between machines and systems, the digitization of processes and the use of real-time data for decision-making set the course for the industrial sector. In this sense, engineers play a key role in their integration to improve the productivity and efficiency of manufacturing phases. In this context, this 100% online program was created to provide graduates with the most advanced concepts of Industry 4.0, its current development and future challenges. For this, students have innovative teaching tools, developed by specialists with a consolidated track record in the technology sector. Besides, content is accessible from anyDigital device with an Internet connection.



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*A Postgraduate Certificate that gives you the necessary knowledge to create a smart factory”*

The advances achieved by new technologies in recent years have allowed the industrial sector to make a decisive commitment to automation, the interconnection of machines or the development of new network architectures and communication protocols. All this, in order to achieve a much more effective production and optimal and safe processes.

Undoubtedly, this ever-evolving digital transformation environment presents important challenges for engineers, who must be aware of progress in this area to grow professionally. For this reason, TECH has created this Postgraduate Certificate in Industry 4.0 of 150 teaching hours.

Its agenda provides students with a global approach to this technological revolution, its application in the present, as well as the necessary steps to deploy digital strategies in a smart factory. Therefore, to achieve this learning process successfully, the graduate has advanced pedagogical material based on multimedia pills, In Focus videos, specialized readings and case studies.

Also, thanks to the Relearning system, focused on the continuous reiteration of key content, the graduate will be able to consolidate the concepts addressed and reduce the long hours of study and memorization so characteristic of other teaching methodologies.

The professional is then faced with an exceptional opportunity to increase their field of action in their career with an academic option that they can study when and where they want. It only requires an electronic device with an Internet connection (mobile, tablet or computer) to visualize this program, at any time. Therefore, without attendance or classes with fixed timetables, the student has greater freedom to combine their daily personal activities with a teaching that is at the forefront of education.

This **Postgraduate Certificate in Industry 4.0** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ 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 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



*In just 6 weeks you will be aware of the trends of Industry 4.0 and its development"*

“

*Incorporate the most advanced technology into your projects and optimize operations in the industrial sector"*

*A library of innovative teaching resources will be available to you, 24 hours a day, 7 days a week.*

*Sign up for a Postgraduate Certificate that fits your agenda and your professional motivations.*

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.



# 02 Objectives

The aim of this Postgraduate Certificate is to provide students, over 150 hours, with first-rate teaching on the revolution that has been the digital transformation in the industrial sphere. All this, through an academic proposal that offers a theoretical-practical perspective and the most innovative pedagogical material, created by an excellent teaching team with high knowledge and experience in Industry 4.0.







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*Make a leap in your professional career as an engineer through a program that offers the most advanced and current pedagogy”*



## 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 Digital Change





## Specific Objectives

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- ◆ Analyze the origins of the so-called Fourth Industrial Revolution and the Industry 4.0 concept
- ◆ In-depth study of the key principles of Industry 4.0, the technologies on which they are based and the potential of all of them in their application to the different productive sectors
- ◆ Convert any manufacturing facility into a Smart Factory and be prepared for the challenges and challenges that come with it



*Get a practical view of Industry 4.0 thanks to the case studies provided by the specialized teaching staff of this course"*

03

# Course Management

In its premise of offering quality teaching to all students, TECH carries out a thorough selection process of the teachers who make up its qualifications. In this way, the graduate who takes this program will access an agenda made by authentic experts in project leadership in Industry 4.0. Also, thanks to the closeness of the teaching staff, you will be able to resolve any doubts you have about the content of this course.





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*Register now and learn from the best professionals in Industry 4.0 about its development and application”*

## 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: 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



# 04

## Structure and Content

The academic journey of this program leads the graduate to achieve effective learning about Industry 4.0 and its direct incursion into their projects. This way, over the course of 6 weeks it will delve into its benefits and the revolution that involves the application of digital technology in the generation of an intelligent and automated production environment. To do this, TECH provides innovative teaching resources, accessible 24 hours a day, 7 days a week, from any digital device with internet connection.







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*Extend even further the information provided by this program with the numerous teaching materials developed by authentic experts in Industry 4.0"*

## Module 1. 4.0 Industry

- 1.1. Definition of 4.0 Industry
  - 1.1.1. Features
- 1.2. Benefits of the 4.0 Industry
  - 1.2.1. Key Factors
  - 1.2.2. Main Advantages
- 1.3. Industrial Revolutions and Vision of the Future
  - 1.3.1. Industrial Revolutions
  - 1.3.2. Keys Factors in Each Revolution
  - 1.3.3. Technological Principles as a Basis for Possible New Revolutions
- 1.4. The Digital Transformation of the Industry
  - 1.4.1. Characteristics of the Digitization of the Industry
  - 1.4.2. Disruptive Technologies
  - 1.4.3. Applications in the Industry
- 1.5. Forth Industrial Revolution. Key Principles of Industry 4.0
  - 1.5.1. Definitions
  - 1.5.2. Key Principles and Applications
- 1.6. 4.0 Industry and Industrial Internet
  - 1.6.1. Origin of IloT
  - 1.6.2. Operation
  - 1.6.3. Steps to Follow for its Implementation
  - 1.6.4. Benefits
- 1.7. Smart Factory Principles
  - 1.7.1. The Smart Factory
  - 1.7.2. Elements that Define a Smart Factory
  - 1.7.3. Steps to Deploy a Smart Factory
- 1.8. Status of the 4.0 Industry
  - 1.8.1. Status of the 4.0 Industry in Different Sectors
  - 1.8.2. Barriers to the Implementation of 4.0 Industry





- 1.9. Challenges and Risks
  - 1.9.1. SWOT Analysis
  - 1.9.2. Challenges
- 1.10. Role of Technological Capabilities and the Human Factor
  - 1.10.1. Disruptive Technologies in Industry 4.0
  - 1.10.2. The Importance of the Human Factor Key Factor

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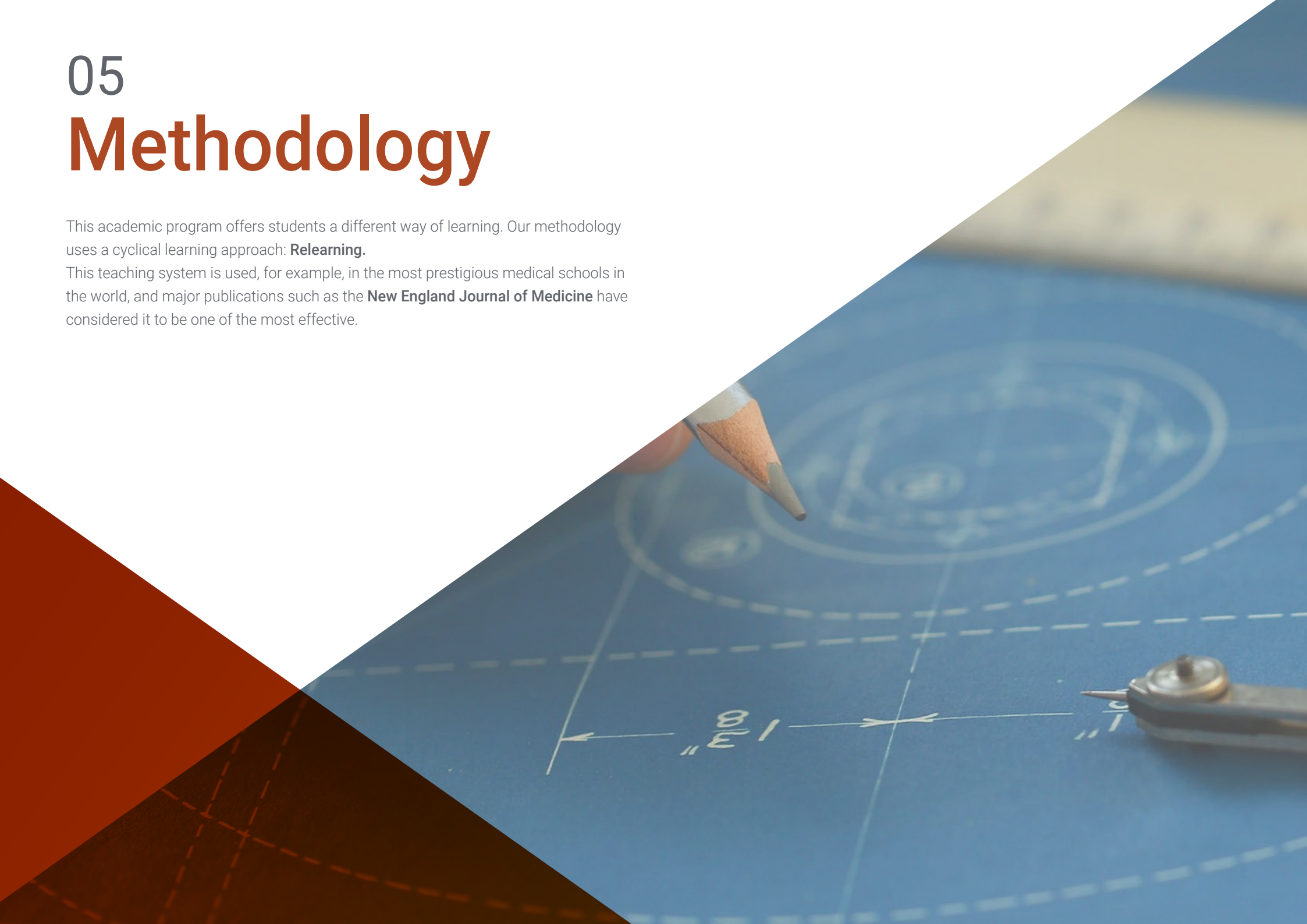
*Explore the relevance of the human factor in Industry 4.0 from anywhere in the world and from your computer with internet connection”*

05

# Methodology

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

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





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

## Case Study to contextualize all content

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

“

*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



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

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“*Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

## Relearning Methodology

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

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.





In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

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



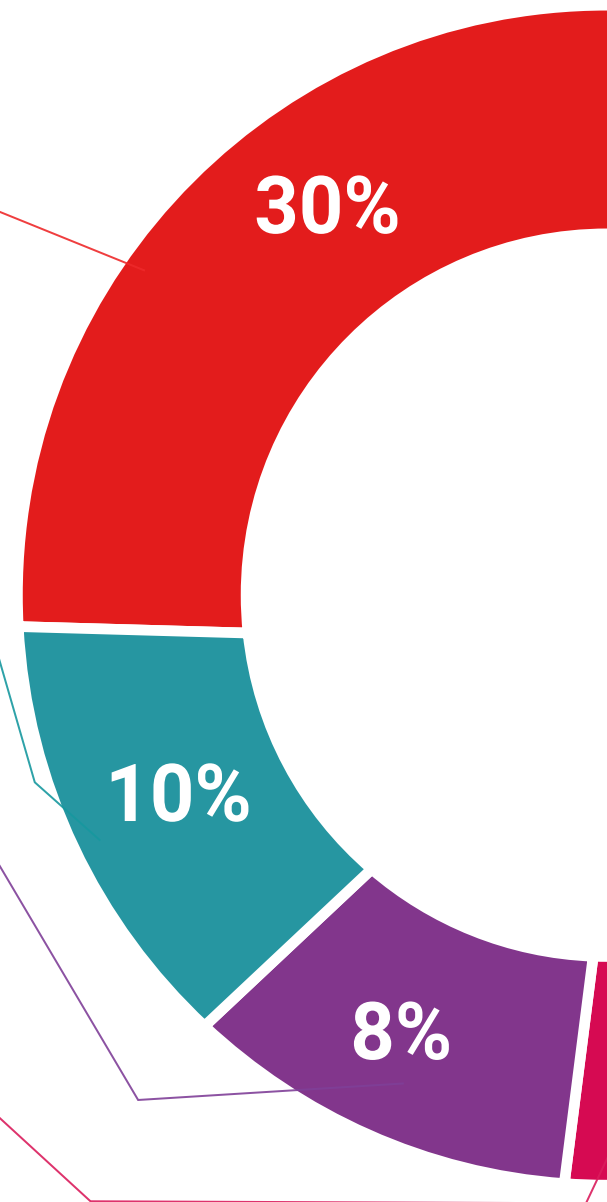
### Practising Skills and Abilities

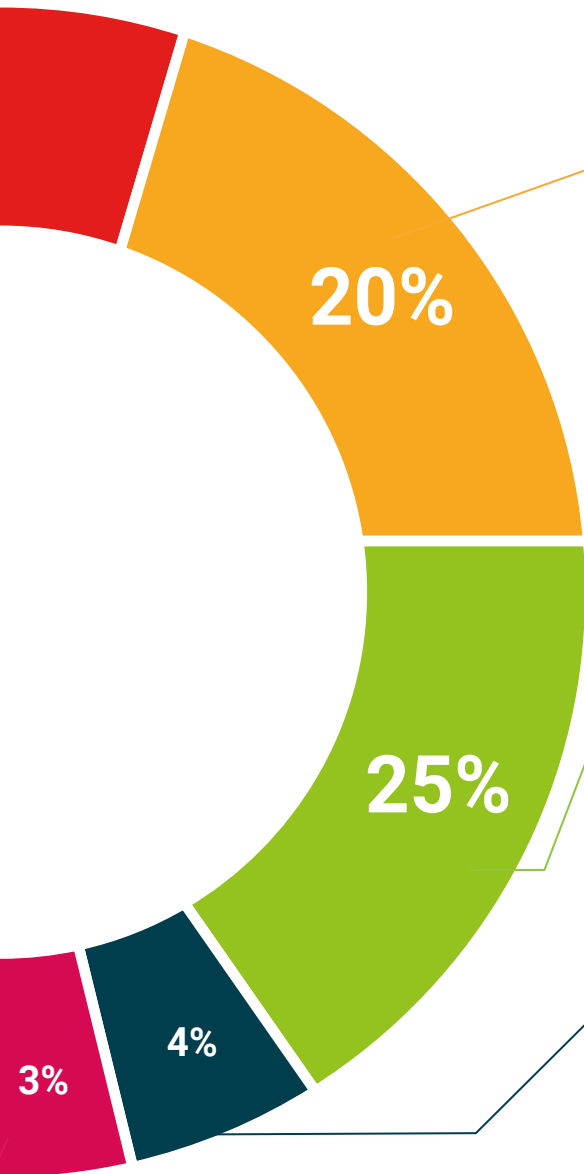
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





**Case Studies**

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



**Interactive Summaries**

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



**Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



06

# Certificate

The Postgraduate Certificate in 4.0 Industries 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 Industry 4.0** contains the most complete and up-to-date program on the market.

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

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

Title: **Postgraduate Certificate in Industry 4.0**

Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate 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 quality  
development languages  
virtual classroom



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- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
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