

# Postgraduate Certificate

Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)





## Postgraduate Certificate Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online
- » Target Group: University Graduates who have previously completed any of the degrees in the fields of Social and Legal Sciences, Administrative and Business

Website: [www.techtute.com/us/school-of-business/postgraduate-certificate/total-productive-maintenance-tpm-overall-equipment-effectiveness](http://www.techtute.com/us/school-of-business/postgraduate-certificate/total-productive-maintenance-tpm-overall-equipment-effectiveness)

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# 01 Welcome

TPM focuses on preventive maintenance and the participation of all employees to improve equipment efficiency and reliability. OEE, on the other hand, is a metric that measures equipment efficiency and resource utilization. Both are critical to maximizing productivity, minimizing downtime and optimizing overall group performance. In an ever-changing business environment, it is essential to stay up-to-date on the latest TPM and OEE techniques and approaches to drive continuous improvement and long-term competitiveness. For this reason, TECH has launched this complete program full of audiovisual resources and a 100% online format that is easily accessible from any device with an Internet connection.



Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE). TECH Technological University



“

*This Postgraduate Certificate will show you the techniques to improve safety in the production process, identification and elimination of hazards in the workplace"*

02

# Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class center for intensive managerial skills education.



“

*TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"*

## At TECH Technological University



### Innovation

The university offers an online learning model that balances the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"*Microsoft Europe Success Story*", for integrating the innovative, interactive multi-video system.



### The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

**95%** | of TECH students successfully complete their studies



### Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

**+100000**

executives prepared each year

**+200**

different nationalities



### Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

**+500**

collaborative agreements with leading companies



### Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.



### Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.





TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:



### Learn with the best

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In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.



*At TECH, you will have access to the most rigorous and up-to-date case analyses in academia"*



### Analysis

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TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.



### Academic Excellence

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TECH offers students the best online learning methodology. The university combines the *Relearning* methodology (the most internationally recognized postgraduate learning methodology) with Harvard Business School case studies. A complex balance of traditional and state-of-the-art methods, within the most demanding academic framework.



### Economy of Scale

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TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.

03

# Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.



“

*We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you education of the highest academic level”*

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:

**01**

### A Strong Boost to Your Career

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

*70% of students achieve positive career development in less than 2 years.*

**02**

### Develop a strategic and global vision of the company

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional fields.

*Our global vision of companies will improve your strategic vision.*

**03**

### Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

*You will work on more than 100 real senior management cases.*

**04**

### You will take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

*45% of graduates are promoted internally.*

05

### Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

*You will find a network of contacts that will be instrumental for professional development.*

06

### Thoroughly develop business projects.

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different fields in companies.

*20% of our students develop their own business idea.*

07

### Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

*Improve your communication and leadership skills and enhance your career.*

08

### You will be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified teachers from the most prestigious universities in the world: the TECH Technological University community.

*We give you the opportunity to study with a team of world-renowned teachers.*

# 04 Objectives

TECH has carefully chosen the most requested and relevant topics within the field for the development of this program of studies. Each topic is presented through audiovisual resources and additional readings, with the objective of fostering the professional skills and competencies needed to achieve career goals. In this way, a dynamic and effective acquisition of knowledge is ensured, making use of the Relearning methodology.





“

*You will achieve your goals thanks to the academic tools TECH has for you”*

**TECH makes its students' objectives its own**  
**Working together to achieve them**

The Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE) will qualify the student to:

01

Differentiate the different types of flow in an operational context

02

Identify the types of demand that our industry must satisfy

03

Develop the tools and techniques used in Lean Manufacturing quality management



04

Establish the keys to implement and sustain a Kaizen culture in the company



05

Evaluate organizational, operational and management systems, based on Operational Excellence and High Performance dynamics: LEAN



06

Identify production equipment efficiency problems

07

Analyze the keys to implement the Lean Manufacturing philosophy in a company

08

Delve into the best practices for the successful implementation of Lean Manufacturing in an organization

05

# Structure and Content

TECH has developed the curriculum for this program based on the demands and needs of the labor market. The agenda covers aspects of productivity and equipment operation, and presents them through an informative conglomerate of audiovisual resources, complementary readings and practical exercises.



“

*In addition to its broad informative content, it offers the most innovative audiovisual resources, developed with the latest technology. What are you waiting for? Enroll now!"*

## Syllabus

The Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE) is an intensive program that prepares the student to face the challenges of the labor field. In addition, it is designed to promote the development of managerial skills that enable more rigorous decision making in uncertain environments.

The program's teaching staff includes professionals from the sector who bring their work experience to this training. Its multimedia content, developed with the latest educational technology, will allow the student a situated and contextual learning, that is, a simulated environment that will provide immersive training programmed to train in real situations.

The design of this program focuses on problem-based learning, through which the professional must try to solve the different professional practice situations that arise during the academic year. To do so, you will be assisted by the Relearning methodology, based on repetition and experience.

This Postgraduate Certificate is developed over 6 week and is divided into 1 module:

### Module 1

TPM (Total Productive Maintenance), OEE (Overall Equipment Effectiveness)



### Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE) completely online. During the 6 weeks of the specialization, the student will be able to access all the contents of this program at any time, which will allow the students to self-manage their study time.

*A unique, key and decisive educational experience to boost your professional development and make the definitive leap.*

**Module 1. TPM (Total Productive Maintenance), OEE (Overall Equipment Effectiveness)**

**1.1. TPM Total Productive Maintenance**

- 1.1.1. TPM Total Productive Maintenance. Fundamentals
- 1.1.2. Emergence, objectives and benefits
- 1.1.3. TPM Pillars

**1.2. Improved machine efficiency OEE: Problem Identification and Problem Solving Techniques**

- 1.2.1. Identification of efficiency problems
- 1.2.2. Solving efficiency problems
- 1.2.3. Machine efficiency monitoring

**1.3. Techniques to Reduce Downtime in the Production Process, Maintenance Planning and Programming**

- 1.3.1. Production planning and maintenance
- 1.3.2. Autonomous Maintenance
- 1.3.3. SMED

**1.4. Equipment Maintenance Management and Purchasing. Decision Criteria**

- 1.4.1. Technical requirements and specifications
- 1.4.2. Costs and investment
- 1.4.3. Supplier evaluation: criteria

**1.5. Preventative Maintenance Prevention of equipment failures**

- 1.5.1. Installation of the equipment: Maintainability criteria
- 1.5.2. Preventative Maintenance
- 1.5.3. Example of a preventive maintenance plan in the railway industry

**1.6. Predictive Maintenance Equipment failure prediction**

- 1.6.1. Predictive Maintenance
- 1.6.2. Sensorization of equipment
- 1.6.3. Algorithm development with AI

**1.7. Safety Improvement Techniques in the Production Process, Identification and Elimination of Hazards in the Workplace**

- 1.7.1. Identification of hazards in the workplace
- 1.7.2. Risk assessment and protection measures
- 1.7.3. Emergency Planning

**1.8. Guidance for the Implementation of TPM in the Organization, Planning, Training and Implementation of Maintenance Systems**

- 1.8.1. The 14 steps for TPM implementation
- 1.8.2. Implementation planning
- 1.8.3. TPM training and maintenance

**1.9. Improved energy efficiency: How to optimize energy use and reduce costs through the implementation of TPM**

- 1.9.1. Energy efficiency of equipment
- 1.9.2. Measuring consumption and efficiency
- 1.9.3. Identification and elimination of energy losses and improvement

**1.10. Examples of TPM implementation**

- 1.10.1. Example of application in the railway sector
- 1.10.2. Examples in the pharmaceutical sector
- 1.10.3. Example of application in the sector



*A first-rate academic compendium specially designed to bring you up to date in a field with a high professional demand"*



# 06

# 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"*

## TECH Business School uses the 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”*



*This program prepares you to face business challenges in uncertain environments and achieve business success.*



## A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. 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 business reality is taken into account.

“

*You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments”*

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

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

## Relearning Methodology

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

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

*Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.*

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 online business school is the only one in the world licensed to incorporate 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.

With this methodology we have 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, markets, and financial 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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.



### Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.



### 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 senior management 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

# Our Students' Profiles

The Postgraduate Certificate is aimed at Graduates, Diploma Holders and University Graduates who have previously completed any of the following programs in the fields of Social and Legal Sciences, Administration and Economics.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities.

Professionals who, being university graduates in any area, have two years of work experience in the field of Lean Manufacturing can also take the program.







“

*You will have a direct approach to the challenges of the labor field, having to test your acquired knowledge during each session”*

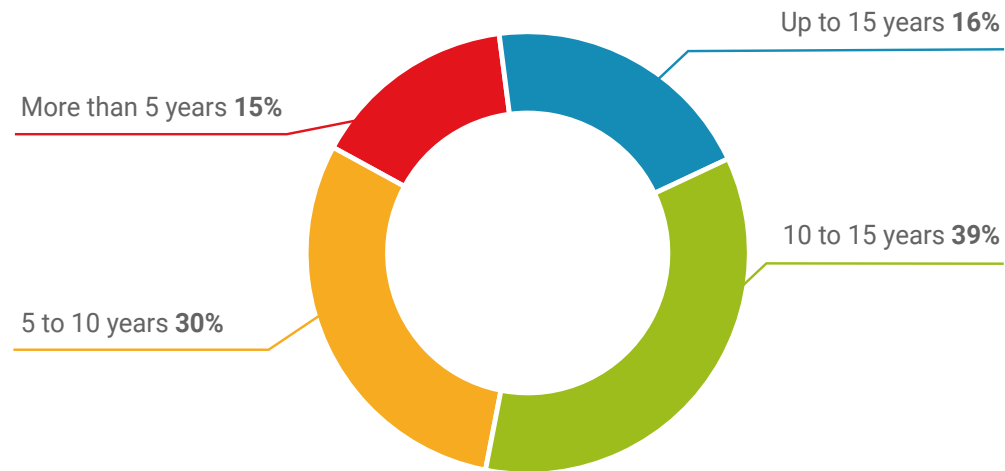
### Average Age

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Between **35** and **45** years old

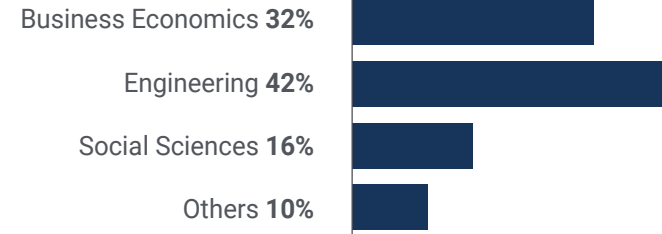
### Years of Experience

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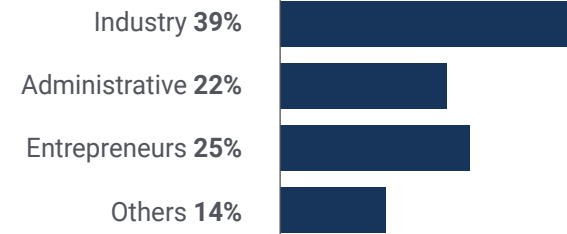
### Training

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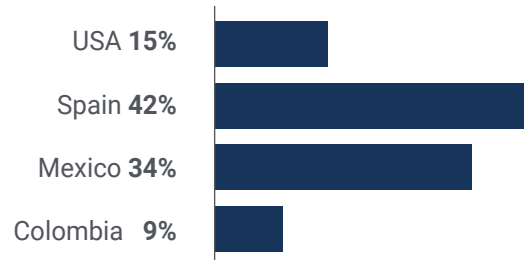
### Educational Profile

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## Geographical Distribution

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## Camila Ballesteros Rey

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Human talent manager

*"After completing this Postgraduate Certificate, my career has undergone a significant change. I now have the skills needed to optimize equipment performance, reduce downtime and improve the efficiency of production processes"*

08

# Course Management

In order to ensure an immersive and highly beneficial experience, TECH has appointed an active teaching team with extensive experience in the field of TPM and OEE. These experts and specialists have worked closely together to integrate all their knowledge into the program's curriculum, guaranteeing students a unique and rigorous professional updating experience.



“

*No pre-established schedules and from the place of your choice. You are just a click away to get trained quickly and effectively by the best experts in the industry"*

## Management



### Mr. Jover Miravittles, Luis

- ♦ President and Founding Partner Grupo Quarck, S.L. Founding Partner
- ♦ Senior Partner in LOGIXS
- ♦ Vice President of €-Corp. S.L
- ♦ IQS Executive Education Director
- ♦ Associate Professor at IE Business School
- ♦ Coordinator of the Master's Degree in Integral Business Management at the Universidad Iberoamericana in Mexico City.
- ♦ Advisor to the employers' association Cecot
- ♦ Chemical Engineer at the Chemical Institute of Sarria (IQS).
- ♦ Master in Business Administration MBA IESE
- ♦ Member of the Hispack organizing committee



09

# Impact on Your Career

This program can bring to the student different benefits for the challenge of his professional career. Here you will acquire new knowledge and skills to carry out TPM and OEE processes, enhancing not only your profile, but your skills for a later business position.







“

*The knowledge developed here has an immediate applicability in the work field, so you will be ready to face any business situation"*

### Are you ready to take the leap?

#### Excellent professional development awaits you

TECH's Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE) is an intensive program that prepares you to face challenges and business decisions in the field of Lean Manufacturing. The main objective is to promote your personal and professional growth. Helping you achieve success.

If you want to improve yourself, make a positive change at a professional level, and network with the best, then this is the place for you.

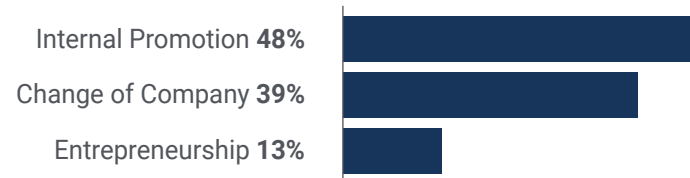
*This Postgraduate Certificate has the innovative Relearning learning model, so you will learn as you go and you will face real and simulation cases.*

*You won't be challenged by traffic or weather. Develop this program from your home studio.*

#### Time of Change



#### Type of change



## Salary increase

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This program represents a salary increase of more than **27%** for our students



10

# Benefits for Your Company

This program contributes to elevating the organization's talent to its maximum potential through the instruction of high-level leaders.

In addition, participating in this university option is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.



“

*In the digital era, managers must integrate new processes and strategies that bring about significant changes and organizational development. This is only possible through university training and updating”*

Developing and retaining talent in companies is the best long-term investment.

01

### **Growth of talent and intellectual capital**

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

---

02

### **Retaining high-potential executives to avoid talent drain**

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.

03

### **Building agents of change**

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

---

04

### **Increased international expansion possibilities**

Thanks to this program, the company will come into contact with the main markets in the world economy.



05

### **Project Development**

The professional can work on a real project or develop new projects in the field of R & D or business development of your company.

---

06

### **Increased competitiveness**

This program will equip students with the skills to take on new challenges and drive the organization forward.

# 11

# Certificate

The Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE) guarantees, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.





“

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

This **Postgraduate Certificate in Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)** 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 diploma 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 Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)**

Official N° 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.



## Postgraduate Certificate Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)

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

# Postgraduate Certificate

Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE)

