PostgraduateCertificate
Lean Manufacturing

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Postgraduate Certificate
Lean Manufacturing

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

Website: **www.techtitute.com/in/engineering/postgraduate-certificate/lean-manufacturing**

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01

Introduction

In manufacturing processes, it is necessary to achieve a balance between resources and the final product, in such a way as to reduce costs and, therefore, be more efficient. *Lean Manufacturing* arises as an essential tool in this field, by means of which losses are minimized, eliminating those processes that, rather than adding value to the product, reduce it. This TECH Technological University program, aimed specifically at engineering professionals, is intended to provide the advanced knowledge needed to apply these new methods in production processes.

Apply a new management method that eliminates processes that detract value and optimizes production systems"

Improving and optimizing production processes is the main challenge facing all industrial companies, as it is the best way to achieve the objectives set, investing only the necessary resources and, therefore, achieving the maximum possible benefits. The *Lean Manufacturing* model, is a consolidated alternative and its application and potential must be taken into consideration by any company that intends to compete in a global environment. In this way, this method suggests eliminating all those operations that do not add any added value to the company, eliminating everything that is not necessary and, therefore, reducing costs.

Taking into account the particularities of this methodology, TECH Technological University has designed this specific Postgraduate Certificate on *Lean Manufacturing*, designed with the main objective of offering the higher qualification demanded by professionals in the sector, who believe in continuous specialization as the only method to improve in their daily practice and, therefore, achieve greater profits for your company.

The content of this program combines theoretical aspects and an eminently practical approach that provides engineers with a deep understanding of the reality of Digital companies. In this way, this Postgraduate Certificate will provide the professional with the capacity and tools necessary to efficiently manage all aspects related to industrial management in order to be able to compete adequately both in the present and in a future full of challenges, opportunities and changes. In this way, this fully online program will bring a renewal of knowledge to engineering professionals, which will place them at the forefront of the latest developments in each of the areas of knowledge.

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

- The development of practical cases presented by experts in *Industrial Management*
- The graphic, schematic, and practical contents with which they are created, provide scientific and 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 in *Industrial Management*
- 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

Continue your studies with this program of TECH Technological University and enter a relevant field in the industrial field"

The multitude of case studies will be very useful for you to easily grasp the theoretical concepts"

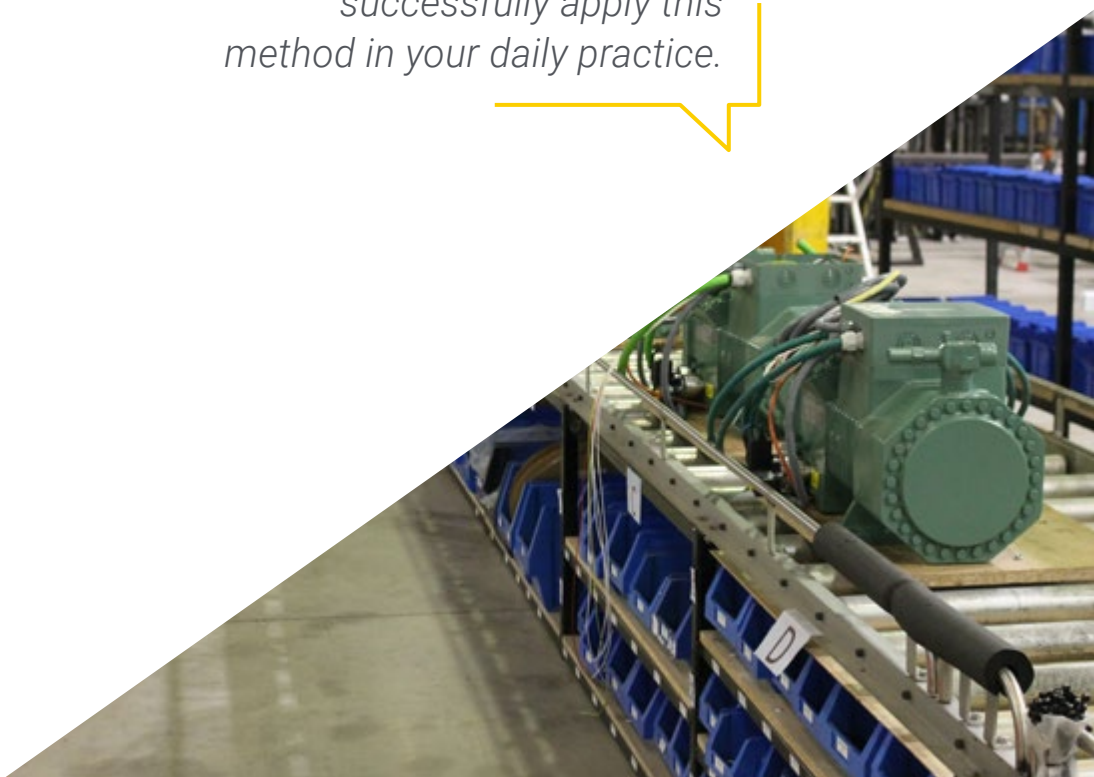
The online format of this program will be fundamental for you to be able to combine it with the rest of your daily obligations.

Know the particularities of Lean Manufacturing and successfully apply this method in your daily practice.

Its teaching staff includes professionals from the field of engineering, who contribute their work experience to this program, as well as renowned specialists from leading companies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive specialization for real situations.

This program is designed around Problem-Based Learning, whereby Engineer must try to solve the different professional practice situations that arise throughout the program. For this purpose, professionals will be assisted by an innovative interactive video system created by renowned and experienced experts.



02

Objectives

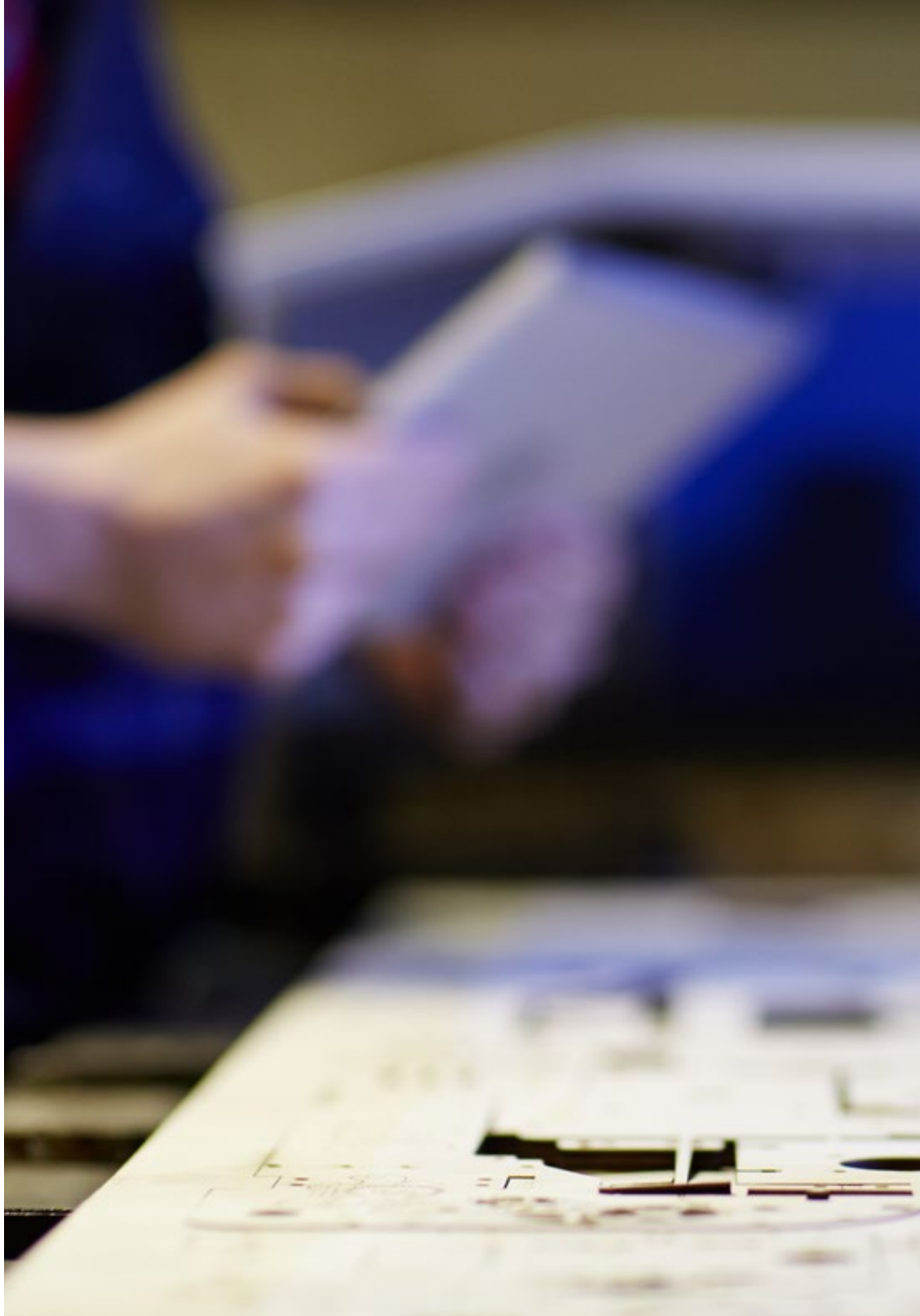
TECH Technological University has designed this program to meet the academic objectives of students who want a higher specialization in the field of *Lean Manufacturing*. In this way, they will be able to update their knowledge of a new, more effective way of working to achieve the company's production objectives. Certainly, a high-level program for those who wish to develop professionally in this field, helping to improve themselves on a daily basis.

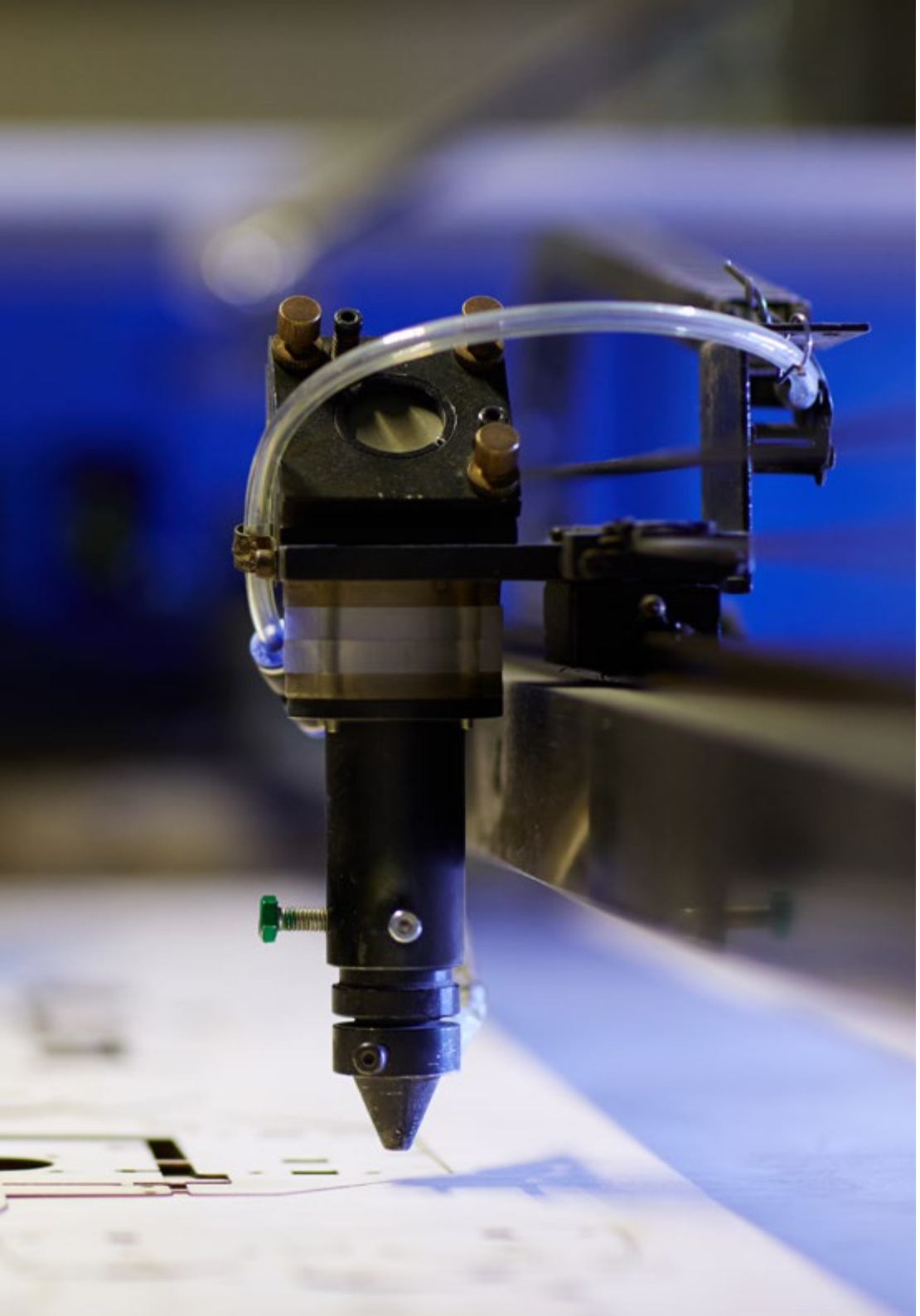
TECH Technological University offers you all its academic resources so that you can specialize in this field"

General Objectives

- Apply the main strategic keys to better compete in current and future times
- Master the tools to achieve excellence in the sector
- Define business strategies and deployment in an organization, process management, and structural typology to better adapt to changes
- Manage the projects presented with both conventional and agile methodologies
- Interpret the economic and financial data of the company, while being able to use and develop the necessary tools for a better management of all aspects related to business finances
- Better manage all the necessary steps and phases in the design and development of new products
- Perform production planning and control with the objective of optimizing resources and adapting to demand as well as possible
- Manage quality throughout the organization and apply the most important tools for continuous improvement of products and processes

Know the Lean Manufacturing production management method and apply it successfully to your daily practice"





Specific Objectives

- Gain in-depth knowledge of the fundamentals of *Lean* thinking and its main differences with respect to traditional manufacturing processes
- Analyze waste in the company, distinguishing the value of each process and the types of waste that can be found
- Establish the 5S principles and how they can help improve productivity, as well as deepen its implementation in the company
- Master *lean* diagnostic tools
- Conduct a thorough analysis of operational *lean* tools such as SMED, JIDOKA, POKAYOKE, batch reduction and POUS
- Delve into the understanding of the importance of *Lean* production monitoring, planning and control tools such as visual management, standardization, production leveling and cellular manufacturing
- In-depth study of the principles of the Kaizen method for continuous improvement and the different methodologies, as well as the main obstacles that we can find for the implementation of Kaizen in the company
- Analyze the roadmap to implement *Lean* in a company by delving deeper into the general aspects of implementation, the different phases and the success factors to apply the *Lean* philosophy in a company
- Identify KPIs that can help measure the results of implementing *lean*
- Research the importance of the human dimension of *lean* and staff involvement systems as a success factor in its implementation

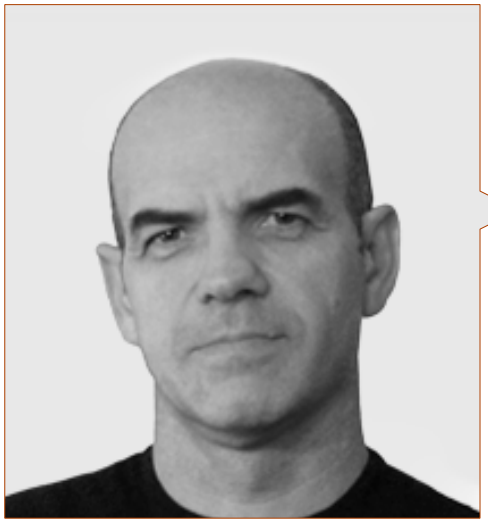
03

Course Management

Professionals of great prestige in the industrial sector have joined forces in this program to offer students the most innovative training in the market on *Lean Manufacturing*. A faculty that understands the importance of higher education to improve the qualification of professionals and, therefore, be more effective in their daily practice. But above all, they believe in new educational technologies to improve learning.

Top-notch professors will guide you during your study time"

Management



Dr. Asensi, Francisco Andrés

- Business consultant and specialist in Industrial Management and Digital Transformation
- Production and Logistics Coordinator at IDAI NATURE
- Coach in Strategic Coaching
- Organization Manager for Talleres Lemar
- Organization and Management of companies for Lab Radio SA
- PhD in Industrial Engineering in Business Organization from the University of Castilla la Mancha
- Degree Industrial in Industrial Organization Engineer from the University Polytechnic of Valencia

Professors

Ms. Mollá Latorre, Korinna

- Responsible for International Projects at AITEX
- Responsible for International Projects at AITEX
- Project Technician for the Institute Technological Institute of Toys
- Industrial Engineer, specialized in Industrial Organization by the Polytechnic University of Valencia
- Member of the U.S. Society for Production and Inventory Control in Integrated Resource Management

A unique, key, and decisive educational experience to boost your professional development"

04

Structure and Content

The syllabus of this TECH program has been designed following the quality criteria demanded by today's society. In this way, it has been structured so that the student himself can self-manage his study and carry out a self-guided learning process that allows him to understand all the aspects related to *Lean Manufacturing*. Certainly, a program that will become a working guide for professionals in the sector.

A complete syllabus aimed at improving your knowledge in a short period of time"

Module 1. *Lean Manufacturing*

1.1. Lean Thinking
- 1.1.1. Structure of the *Lean* System
- 1.1.2. *Lean* Principles
- 1.1.3. *Lean* vs. Traditional Manufacturing Processes

1.2. Waste in the Company
- 1.2.1. Value vs. Waste in *Lean* Environments
- 1.2.2. Types of Waste (MUDAS)
- 1.2.3. The *Lean* Thinking Process

1.3. 5 S Methodology
- 1.3.1. The 5S Principles and How They Can Help Us Improve Productivity
- 1.3.2. The 5 Ss Seiri, Seiton, Seiso, Seiketsu and Shitsuke.
- 1.3.3. Implementation of the 5S in the Company

1.4. *Lean* Diagnostic Tools. VSM Value Stream Maps
- 1.4.1. Value-Adding Activities (VA), Necessary Activities (NNVA) and Non-Value-Adding Activities (NVA)
- 1.4.2. The 7 Map Tools of *(Value Stream Mapping)*
- 1.4.3. Process Activity Mapping
- 1.4.4. Mapping *Supply Chain* Response
- 1.4.5. The Production Variety Funnel
- 1.4.6. Quality Filter Mapping
- 1.4.7. Demand Amplification Mapping
- 1.4.8. Decision Point Analysis
- 1.4.9. Physical Structure Mapping

1.5. *Lean* Operational Tools
- 1.5.1. SMED
- 1.5.2. JIDOKA
- 1.5.3. POKAYOKE
- 1.5.4. Batch Reduction
- 1.5.5. POUS

1.6. *Lean* Tools for Production Monitoring, Planning and Control
- 1.6.1. Visual Management
- 1.6.2. Standardization
- 1.6.3. Production Leveling (Heijunka)
- 1.6.4. Manufacturing in Cells

1.7. The Kaizen Method for Continuous Improvement
- 1.7.1. Kaizen Principles
- 1.7.2. Kaizen Methodologies: Kaizen Blitz, Gemba Kaizen, Kaizen Teian
- 1.7.3. Problem Solving Tools A3 Report
- 1.7.4. Main Obstacles for Implementing Kaizen

1.8. Roadmap for *Lean* Implementation
- 1.8.1. General Aspects of Implementation
- 1.8.2. Phases of Implantation
- 1.8.3. Information Technologies in *Lean* Implementation
- 1.8.4. Success Factors in *Lean*

1.9. *Lean* Performance Measurement KPIs
- 1.9.1. OEE- Overall Equipment Efficiency
- 1.9.2. TEEP- Total Equipment Effectiveness Performance

1.9.3. FTT- First Time Quality
1.9.4. DTD- Dock to Dock Time
1.9.5. OTD- On-Time Delivery
1.9.6. BTS- Programmed Manufacturing
1.9.7. ITO- Inventory Turnover Rate
1.9.8. VAR-Value Added Ratio
1.9.9. PPM- Parts per Million Defects
1.9.10. DR- Delivery Rate
1.9.11. IFA- Accident Frequency Rate

1.10. Lean's Human Dimension Staff Participation Systems
1.10.1. The Team in the *Lean* Project. Application of Teamwork
1.10.2. Operator Versatility
1.10.3. Improvement Groups
1.10.4. Suggestion Programs

"Delve into Lean Manufacturing and improve your competitiveness in this field"

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

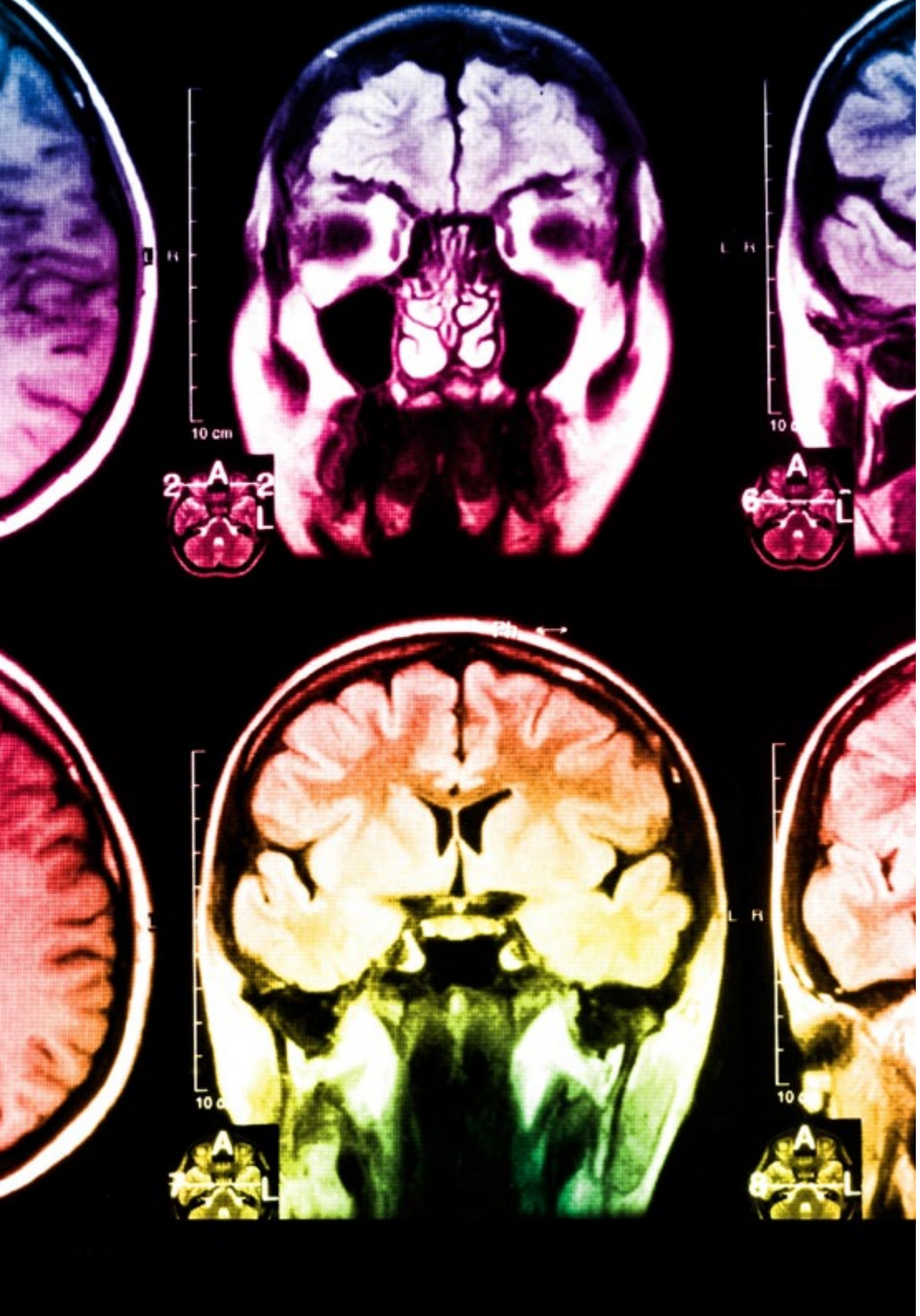
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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 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.

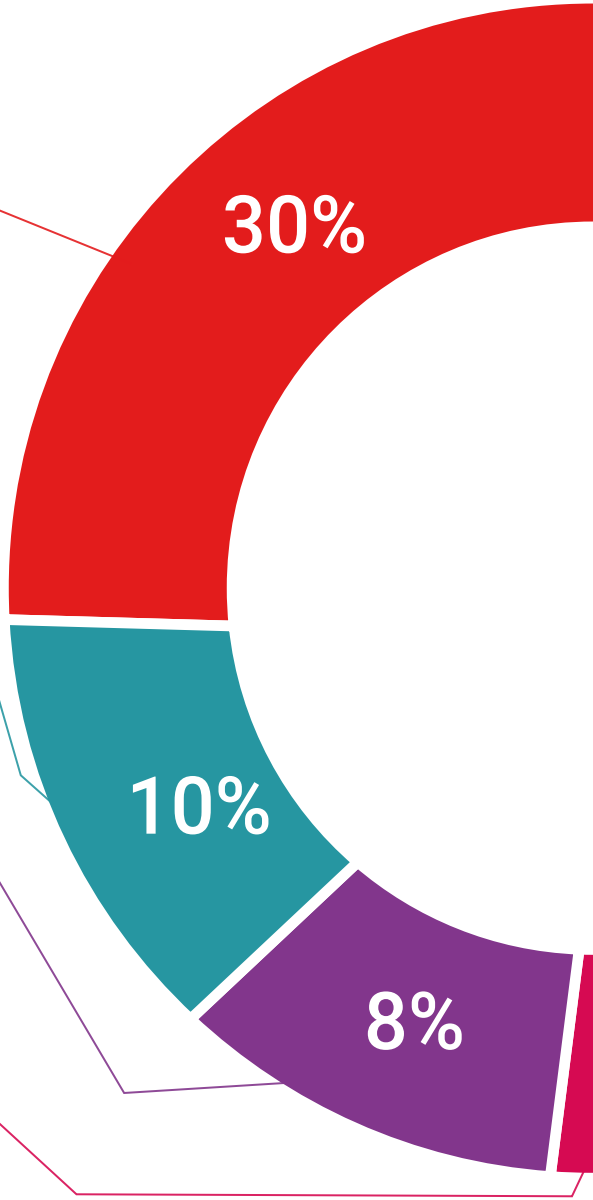
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

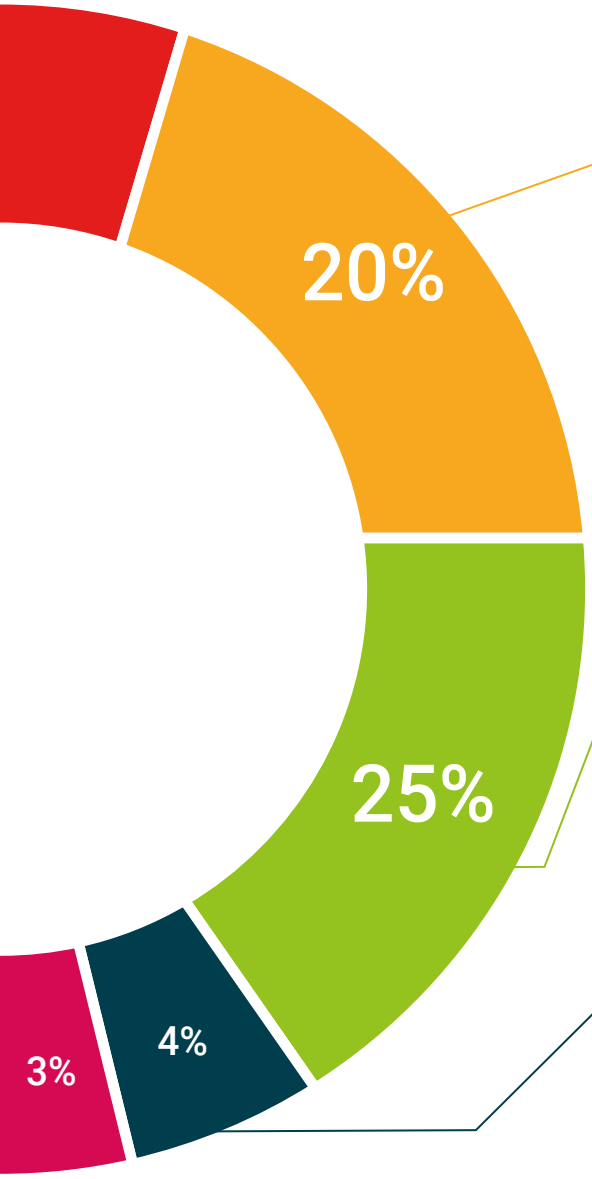
Practicing Skills and Abilities

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".

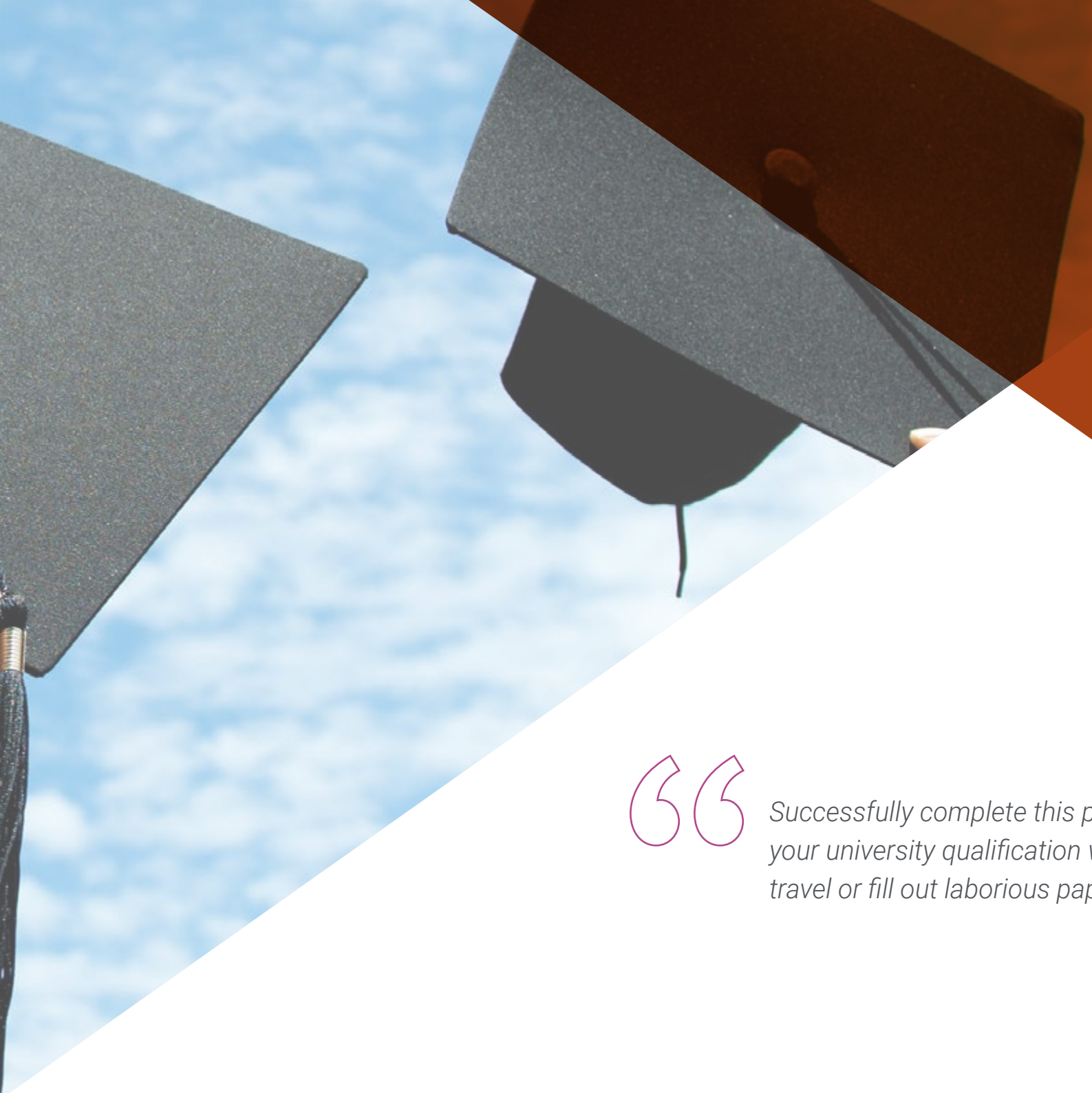
Testing & Retesting

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 Lean Manufacturing guarantees students, in addition to the most rigorous and up-to-date education, 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 Lean Manufacturing** 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 Lean Manufacturing**

Official Nº of Hours: **150 h.**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Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Lean Manufacturing

This is a qualification awarded by this University, equivalent to 150 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

*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.

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