Postgraduate Certificate
Product Design and Development in Industrial Companies

tech technological university

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Postgraduate Certificate
Product Design and Development in Industrial Companies

- 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/product-design-development-industrial-companies**

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01

Introduction

Product design and development is one of the greatest challenges facing any company. The main objective is to ensure that the final result satisfies the consumer's needs, using the least amount of resources possible, since this will allow maximum benefits to be obtained. Therefore, it is a complex task that must be carried out taking into account both external and internal aspects of the company. Those who wish to improve their knowledge in the field of design and creation of industrial products will find in this TECH Technological University program all the relevant information in this field, which will allow them to manage successfully in the sector.

The design of a product must be carried out taking into account the needs of consumers and the company's resources. For this reason, higher qualification in this field will give the keys to succeed in the sector"

The process of creating a product in an industrial company must be carried out in accordance with market requirements. The needs of the end user must be the initial inputs to define the specifications. It is essential to work as a team and use techniques and methodologies that help to generate end-user-oriented solutions so that the products and services generated provide value to people. The components of the final product must be taken into account from the earliest stages of design and design activities must occur in parallel in the process.

A successful product design and development process is possible through advanced product quality planning, from 3D construction, material definition and design verification; through prototype development to help improve the design; continuing with the development of the manufacturing process, all the necessary tooling for manufacturing, assembly and control, to validation with testing and dimensional analysis to ensure the quality of the final product and its manufacturing. Besides, without forgetting the change management, which includes the analysis and reduction of variability, as well as the use of lessons learned and tested practices to help improve the performance of the final product. Furthermore, innovation and technology transfer, as an independent process, helps to reduce product design and development times.

In order to achieve the maximum specialization of engineers in this field, TECH Technological University has designed a very complete program, which combines theoretical aspects and an eminently practical approach that provides engineers with the acquisition of a comprehensive knowledge of the reality of the digital company. In this way, this program 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. Ultimately, the program will totally online provide engineering professionals a knowledge update that will place them at the forefront of the latest developments in every relevant branch of knowledge.

This **Postgraduate Certificate in Product Design and Development in Industrial Companies** contains the most complete and up-to-date program the market. The most important features of the program 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

Carry out innovative and consumer-demanded projects requires extensive specialization on the part of engineers”

A 100% online training that will allow you to study from anywhere in the world. All you need is a computer or mobile device with an internet connection"

This program will give you the opportunity to successfully manage the design and management of products for industrial companies.

A comprehensive program to improve your project management skills.

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 the engineer must try to solve the different professional practice situations that arise during the academic year. For this purpose, professionals will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

Engineers who work in the industrial sector will find in this TECH Postgraduate Certificate the perfect opportunity to achieve their academic objectives, achieving a superior qualification that will allow them to develop the necessary skills for the design and development of products. This program will undoubtedly enable students to improve their professional skills by learning, first-hand, the latest techniques and tools for this work.

TECH helps you meet your academic goals with this Postgraduate Certificate of great interest in the sector"

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
- 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

Develop the necessary product making skills"

Specific Objectives

- Delve into the techniques, phases and tools related to the conceptual design that precedes the final design of the product, as well as the translation of the final customer's requirements into technical specifications that the product will have to comply with
- Establish all the actors to be taken into account in the design and development process of a new product for its correct performance in terms of quality, time, cost, resources, communications and risks
- In-depth breakdown of the design process of a new product from CAD design through failure analysis and drawing to agreement that the design will meet requirements
- Analyze available prototyping options for proper evaluation of the initial design
- Carry out in-depth analysis of the phases related to the development of the manufacturing process until the moment the product is available according to the initial requirements
- Achieve a detailed understanding of the product validation process to ensure that it meets all expected quality requirements
- Delve into the processes of innovation and technology transfer to develop new products and processes and to establish a new state of the art

03

Course Management

Professionals with great reputation in the industrial sector have joined forces in this program to offer students the most innovative programs on the market. Faculty members who understand the importance of pursuing higher education to improve their qualifications and, therefore, be more effective in daily practice. In this way, this program combines the best current faculty with the most up-to-date information. A perfect combination to achieve professional success.

Highly qualified and experienced professors will show you the keys to develop successful industrial products"

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

Mr. Ponce Lucas, Miguel Enrique

- Technical Specialist and Lead Engineer, SRG Global
- Product Development Engineer at SRG Global
- Hardware Engineer at DAO Logic
- Degree in Industrial Engineering and Mechanical from the Polytechnic University of Valencia

Mr. Morado Vázquez, Eduardo

- Leading the Industrial Area in Bituminous Softeners and Plasticizers
- Responsible for Quality Assurance at Ford Motor Company
- Master's Degree in Occupational Risk Prevention from the University of Alcalá of Henares
- Master's Degree in Business Administration from ESTEMA

04

Structure and Content

The syllabus of this TECH Postgraduate Certificate has been designed following the current quality criteria demanded by students. In this way, the program includes the latest information that should be taken into account by those who develop professionally in the industrial field and have to design and create products demanded in the market. Undoubtedly, a high-level syllabus aimed at improving students' skills in this field.

Learn how to create industrial products thanks to the information you will find in this program"

Module 1. Product Design and Development

1.1. QFD in Product Design and Development (*Quality Function Deployment*)
- 1.1.1. From the Voice of the Customer to Technical Requirements
- 1.1.2. The House of Quality / Phases in Development
- 1.1.3. Advantages and Limitations

1.2. *Design Thinking*
- 1.2.1. Design, Need, Technology and Strategy
- 1.2.2. Stages of the Process
- 1.2.3. Tools and Techniques Used

1.3. Concurrent Engineering
- 1.3.1. Fundamentals of Concurrent Engineering
- 1.3.2. Methodology of Concurrent Engineering
- 1.3.3. Tools Used

1.4. Programming. Planning and Definition
- 1.4.1. Requirements. Quality Management
- 1.4.2. Development Phases. Time Management
- 1.4.3. Materials, Feasibility, Processes. Cost Management
- 1.4.4. Project Equipment. Human Resource Management
- 1.4.5. Information. Communications Management
- 1.4.6. Risk Analysis. Risk Management

1.5. Products. Their Design (CAD) and Development
- 1.5.1. Information Management / PLM / Product Life Cycle
- 1.5.2. Modes and Effects of Product Failure
- 1.5.3. CAD Construction. Review
- 1.5.4. Product and Manufacturing Plans
- 1.5.5. Design Verification

1.6. Prototypes. Their Development
- 1.6.1. Rapid Prototyping
- 1.6.2. Control Plan
- 1.6.3. Experiment Design
- 1.6.4. The Analysis of Measurement Systems

1.7. Productive Process. Design and Development
- 1.7.1. Modes and Effects of Process Failure
- 1.7.2. Design and Construction of Manufacturing Tools
- 1.7.3. Design and Construction of Control Tools (Gauges)
- 1.7.4. Adjustment Phase
- 1.7.5. Production Start-Up
- 1.7.6. Initial Evaluation of the Process

1.8. Product and Process. Its Validation
- 1.8.1. Evaluation of Measurement Systems
- 1.8.2. Validation Tests
- 1.8.3. Statistical Process Control (SPC)
- 1.8.4. Product Certification

1.9. Change Management. Improvement and Corrective Actions
- 1.9.1. Type of Change
- 1.9.2. Variability Analysis, Improvement
- 1.9.3. Lessons Learned and Practices Tested
- 1.9.4. Process of Change

1.10. Innovation and Technology Transfer
- 1.10.1. Intellectual Property
- 1.10.2. Innovation
- 1.10.3. Technological Transfer

A program of great educational value to improve your knowledge in"

05

Methodology

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

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

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

Case Study to contextualize all content

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

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

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

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

A learning method that is different and innovative

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

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

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

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

Relearning Methodology

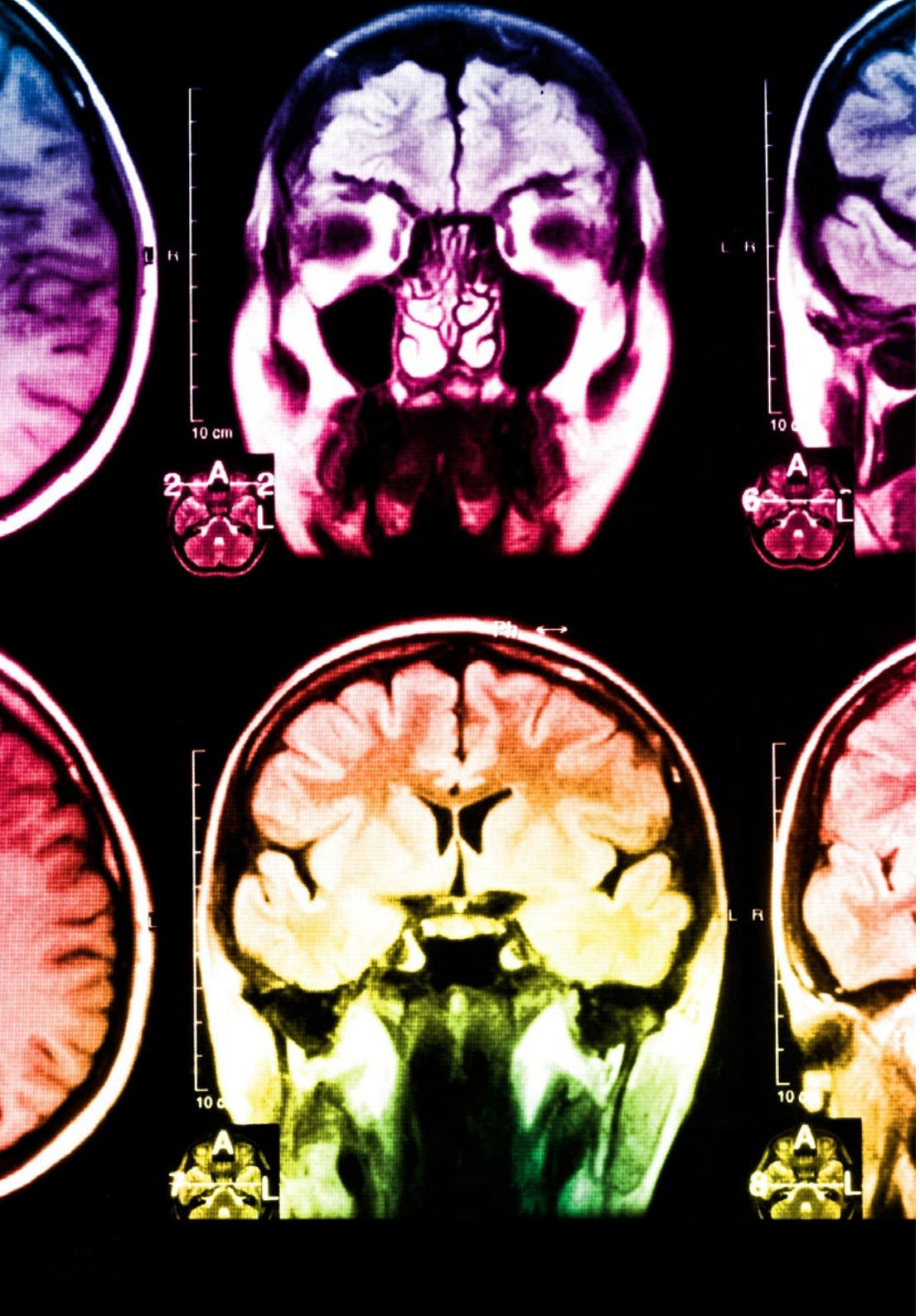
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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

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

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

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



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

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

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

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

Study Material

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

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

Classes

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

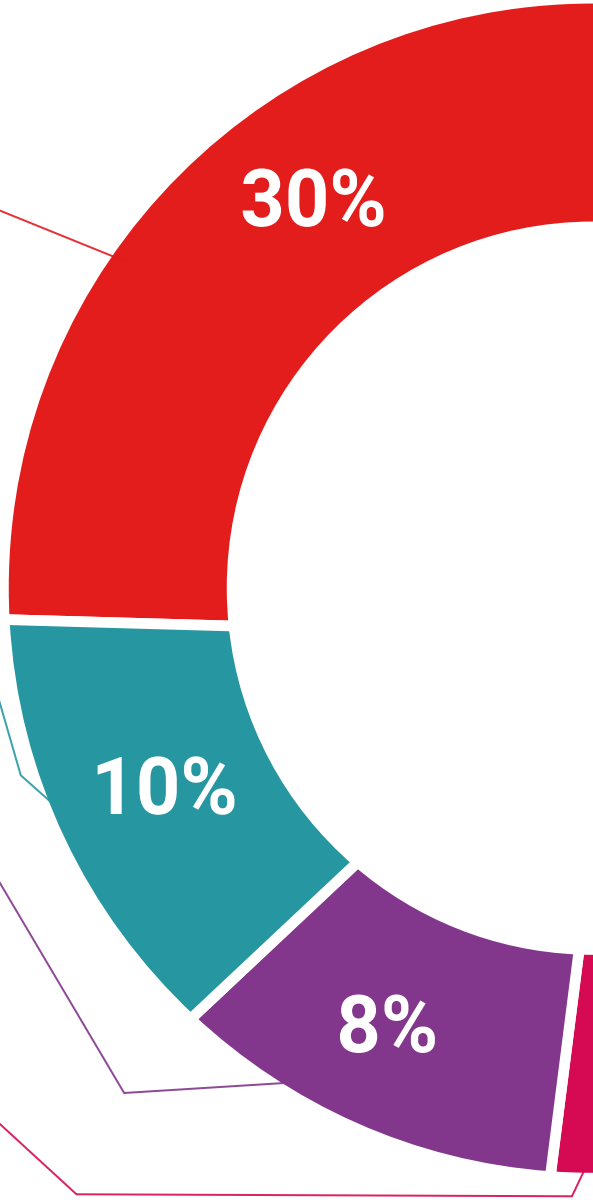
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

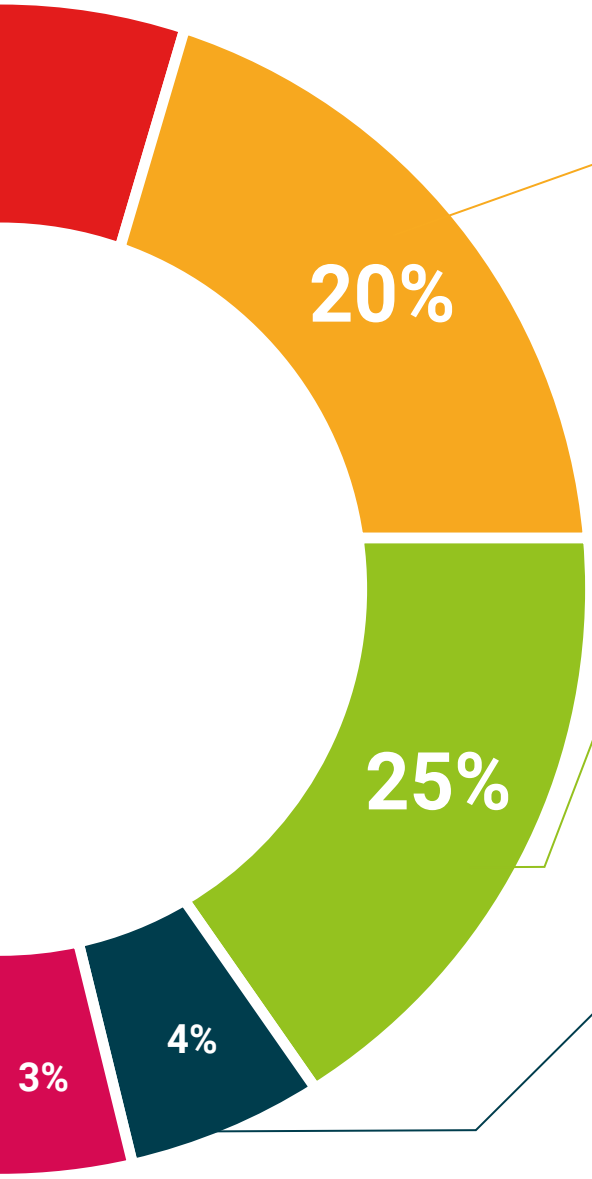
Practising Skills and Abilities

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

Additional Reading

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





Case Studies

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

Interactive Summaries

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

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

Testing & Retesting

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

06

Certificate

The Postgraduate Certificate in Product Design and Development in Industrial Companies guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification 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 Product Design and Development in Industrial Companies** contains the Educational most complete and up-to-date program 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 Product Design and Development in Industrial Companies**

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

Design and Development in Industrial Companies

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

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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