Postgraduate Certificate

Elaboration and Feasibility Analysis of Industrial Chemical Processes

tech global university

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Elaboration and Feasibility Analysis of Industrial Chemical Processes

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Credits: **6 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-certificate/elaboration-feasibility-analysis-industrial-chemical-processes**

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Introduction

Innovation and advances in the Chemical Industry play a crucial role in the production of a wide variety of products essential to modern life such as medicines, fertilizers, food preservatives, or water treatment. An extensive field of action that requires a solid knowledge of chemical processes, but which requires a detailed analysis of economic feasibility and resources to be carried out. In this line, this 100% online and flexible program is developed, which provides advanced learning on process and chemical product designs. To achieve this goal, the graduate will have access to numerous pedagogical tools, accessible 24 hours a day, 7 days a week.

A 100% online and flexible Postgraduate Certificate program that will improve your knowledge on the elaboration and viability of industrial chemical processes"

From the manufacture of pharmaceuticals, pesticides, food production, and processing to renewable energy technologies are marked by industrial chemical processes. A scenario that leads engineering professionals to develop their field of action for various areas and contribute to the development of different sectors, and the quality of life of citizens.

Faced with this scenario, engineering professionals must be aware of the most effective techniques for process and chemical product design as well as the essential economic analysis. In this sense, this Postgraduate Certificate is oriented in Elaboration and Feasibility Analysis of Industrial Chemical Processes of 180 teaching hours, prepared by a specialized faculty.

An intensive program that will allow high school students to obtain advanced training on different strategies in chemical manufacturing, environmental remediation, stock management, or profitability estimation.
All of this, applied to the Chemical Industry from a theoretical-practical perspective and with a large amount of teaching material.

In addition, thanks to the Relearning method, teaching will be much simpler and will facilitate the assimilation of concepts without the need to invest many hours of study and memorization.

Undoubtedly, this is a unique opportunity to study a quality educational proposal, characterized by its flexibility and easy access. Students only need a digital device (Tablet, cell phone, or computer) with an Internet connection to view the content hosted on the virtual platform. A university program that can be combined with daily professional and personal activities.

This **Postgraduate Certificate in Elaboration and Feasibility Analysis of Industrial Chemical Processes** 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 Chemistry Engineering
- 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
- 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

A program with a theoretical-practical perspective of great application in the Chemical Industry. Enroll now"

Do you want to achieve advanced and effective learning? The Relearning method, used by TECH, favors teaching in less time"

Delve into the methodology of process intensification and stock management in the Chemical Industry.

With this program you will achieve a high-level of knowledge on the practical implementation of environmental remediation.

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

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Objectives

The purpose of this Postgraduate Certificate is to offer high school students advanced learning on the development and feasibility analysis of industrial chemical processes. In this way, throughout the 6 weeks of this program, the graduate will delve into the economic study of processes and chemical products, taking into account investment and profitability considerations. For this purpose, you will also have access to simulations of successful cases, provided by the specialized faculty team that teaches this program.

You have simulations of case studies that will show you the methodology used to estimate the profitability of industrial chemical processes”

General Objectives

- Apply fundamental concepts in the design of chemical products and processes
- Integrate environmental considerations in the design of chemical processes
- Compile technological advances in Chemical Engineering
- Evaluate the applicability and potential advantages of new technologies
- Develop a comprehensive view of modern chemical engineering

Specific Objectives

- Determine the importance of the steps involved in the design of chemical products
- Elaborate chemical process design diagrams
- Implement environmental remediation practices
- Explore the intensification of chemical processes
- Manage inventories and procurement

Access, whenever and wherever you want, to the advanced syllabus of feasibility analysis of industrial chemical processes"

03

Course Management

The management and faculty of this program have a high profile in the Chemical Industry. Their deep knowledge of the industry, as well as their scientific research on chemical processes sets them apart. In addition, thanks to its proximity, the high school students who take this program will have the opportunity to obtain a first-level learning and resolve any questions they may have during the course of this educational program. A unique opportunity offered only by TECH, the world's largest digital university.

Make progress in your projects within the industrial sector thanks to the information provided by great experts in this sector"

Management

Dr. Barroso Martín, Isabel

- Expert in Inorganic Chemistry, Crystallography and Mineralogy
- Postdoctoral researcher of the I Own Research and Transfer Plan of the University of Málaga
- Research Staff at the University of Málaga
- ORACLE Programmer in CMV Consultants Accenture
- PhD in Sciences from the University of Málaga
- Master's Degree in Applied Chemistry - specialization in materials characterization - from the University of Málaga
- Master's Degree in SE, High School, Vocational Training, and Language Teaching - specializing in Physics and Chemistry University of Malaga

Professors

Dr. Montaña, Maia

- Postdoctoral Researcher at the Department of Chemical, Energetic, and Mechanical Technology of the Rey Juan Carlos University
- Interim Assistant at the Department of Chemical Engineering, School of Engineering, La Plata National University
- Collaborating teacher in the course "Introduction to Chemical Engineering"
- Teaching tutor at the La Plata National University
- PhD in Chemistry from the La Plata National University
- Graduate in Chemical Engineering from the La Plata National University

Dr. Torres Liñán, Javier

- Expert in Chemical Engineering and Associated technologies
- Specialist in Environmental Chemical Technology
- Collaborator of the Chemical Engineering Department of the University of Málaga
- PhD from the University of Málaga in the PhD program of Chemistry and Chemical Technologies, Materials, and Nanotechnology
- Master's Degree in ESO, High School, Form. Prof. and Language Teaching. Esp. Physics and Chemistry from the University of Málaga
- Master's Degree in Chemical Engineering from the University of Málaga

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Structure and Content

The Relearning method, based on the repetition of content, will allow the high school students to achieve a much more effective learning, which reduces the hours of memorization and study. In this way, the graduates will enter into an education that will lead them to delve into the design of processes and chemical products from a theoretical-practical approach. In addition, you will be able to do it at any time and place, since the exclusive online methodology does not limit access time and favors self-management of study.

A syllabus that will show you the most effective strategies in chemical product design"

Module 1. Processes and Chemical Products Design

1.1. Chemical Products Design
- 1.1.1. Chemical Products Design
- 1.1.2. Stages in Product Design
- 1.1.3. Chemical Products Categories

1.2. Strategies in Chemical Products Design
- 1.2.1. Detection of Market Needs
- 1.2.2. Conversion of Requirements into Product Specifications
- 1.2.3. Sources of Idea Production
- 1.2.4. Strategies for the Idea Screening
- 1.2.5. Variables Influencing Idea Selection

1.3. Strategies in Chemical Products Manufacturing
- 1.3.1. Prototypes in Chemical Products Manufacturing
- 1.3.2. Chemical Products Manufacture
- 1.3.3. Specific Design of Basic Chemicals
- 1.3.4. Scaling

1.4. Process Design
- 1.4.1. Flowsheeting for Process Design
- 1.4.2. Process Understanding Diagrams
- 1.4.3. Heuristic Rules in the Design of Chemical Processes
- 1.4.4. Flexibility of Chemical Processes
- 1.4.5. Problem Solving Associated with Process Design

1.5. Integrated Environmental Remediation in Chemical Processes
- 1.5.1. Integration of the Environmental Variable in Process Engineering
- 1.5.2. Recirculation Flows in the Process Plant
- 1.5.3. Treatment of Effluents Produced in the Process
- 1.5.4. Minimization of Discharges from Process Plant Activities

1.6. Process Intensification
- 1.6.1. Intensification Applied to Chemical Processes
- 1.6.2. Intensification Methodologies
- 1.6.3. Intensification in Reaction and Separation Systems
- 1.6.4. Process Intensification Applications: Highly Efficient Equipment

1.7. Stock Management
- 1.7.1. Inventory Management
- 1.7.2. Selection Criteria
- 1.7.3. Inventory Sheets
- 1.7.4. Procurement

1.8. Processes and Chemical Products Economic Analysis
- 1.8.1. Fixed and Working Capital
- 1.8.2. Capital and Manufacturing Cost Estimation
- 1.8.3. Equipment Cost Estimate
- 1.8.4. Estimation of Labor and Raw Material Costs

1.9. Profitability Estimation
- 1.9.1. Global Investment Estimation Methods
- 1.9.2. Detailed Investment Estimation Methods
- 1.9.3. Chemical Investment Selection Criteria
- 1.9.4. The Time Factor in Cost Estimation

1.10. Application in the Chemistry Industry
- 1.10.1. Glass Industry
- 1.10.2. Cement Industry
- 1.10.3. Ceramic Industry

Inquires with the best current educational material on innovations in the glass, cement, and ceramics industry"

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

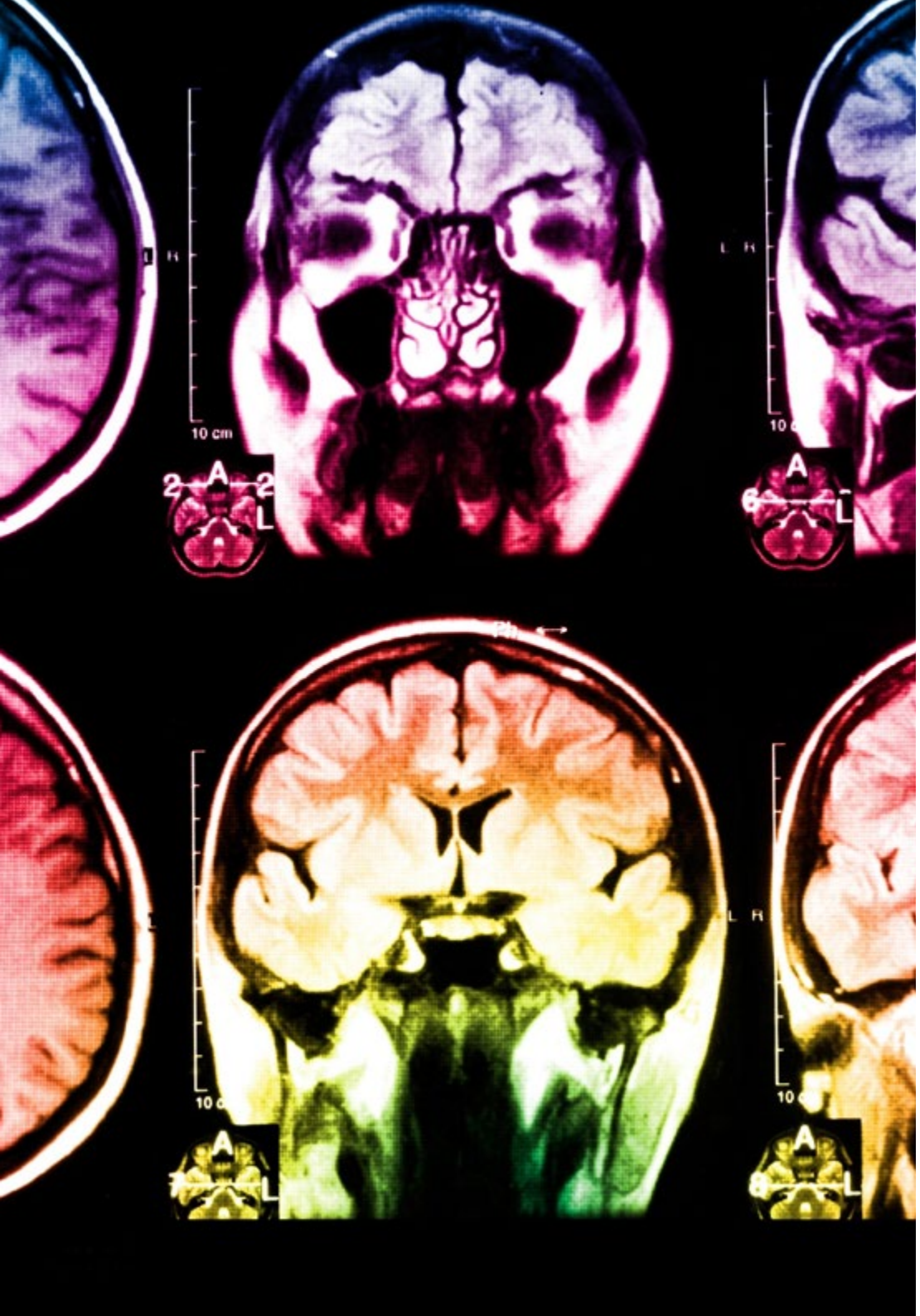
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

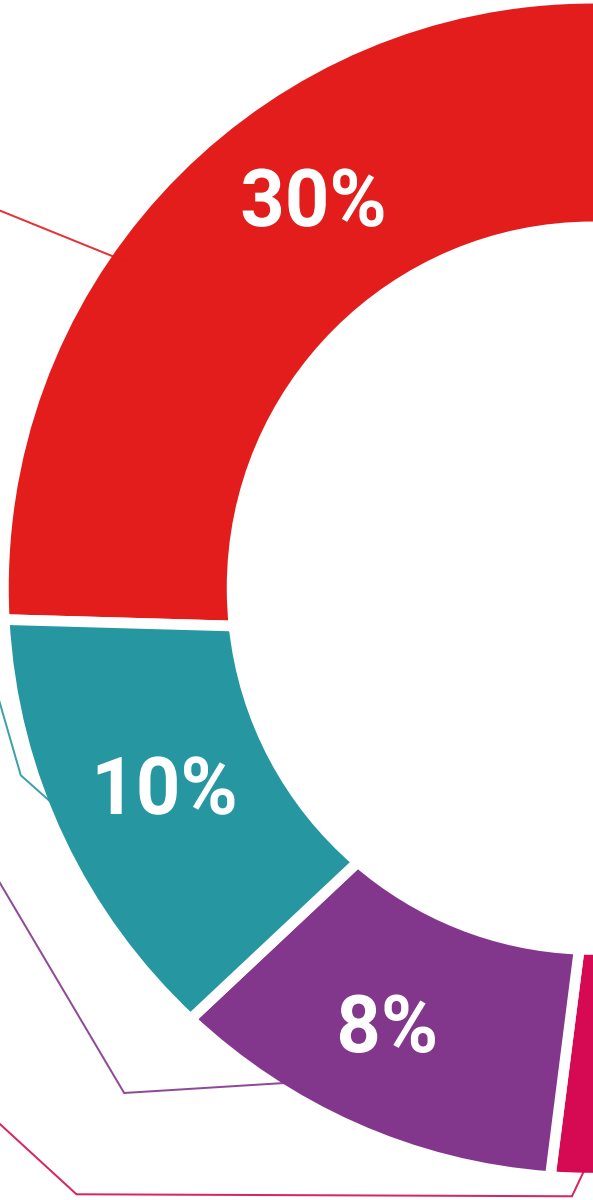
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

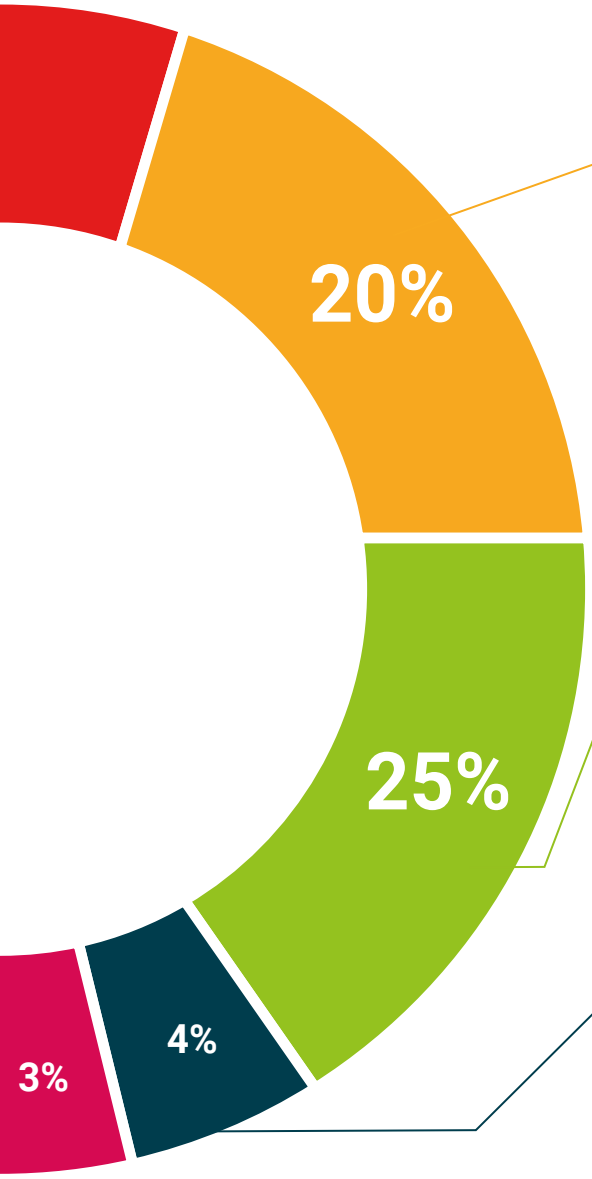
Practising Skills and Abilities

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 Elaboration and Feasibility Analysis of Industrial Chemical Processes guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in Elaboration and Feasibility Analysis of Industrial Chemical Processes** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Elaboration and Feasibility Analysis of Industrial Chemical Processes**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Elaboration and Feasibility Analysis of Industrial Chemical Processes

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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