

# Postgraduate Certificate

## Quality Management of Chemical Products and Processes



## Postgraduate Certificate

### Quality Management of Chemical Products and Processes

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

Website: [www.techtute.com/us/engineering/postgraduate-certificate/quality-management-chemical-products-processes](http://www.techtute.com/us/engineering/postgraduate-certificate/quality-management-chemical-products-processes)

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# 01

# Introduction

The sustainable use of resources, particularly water resources, prevents the Chemical Industry from affecting the environment. This is why this sector is looking for innovative strategies to help reduce its impact on nature. Professionals who aspire to update their skills and knowledge on these demands will find in TECH an unparalleled learning opportunity. An intensive 6-week syllabus is available for the study of quality management of chemical processes and products. Throughout the program, they will analyze specific regulations and methodologies. This educational training will be supported by the exclusive Relearning methodology that facilitates the assimilation of skills in a fast and flexible way through repetition.





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*Thanks to the Relearning methodology implemented by TECH you will develop a professional practice of excellence, highly demanded in the Chemical Industry"*

The emission of greenhouse gases into the atmosphere is one of the unsustainable dynamics that the chemical industry is urgently seeking to reduce. For this reason, the sector is constantly innovating with disruptive mechanisms and strategies that allow for more efficient management of its carbon footprint. Through these processes, this field of development aims to adapt to the strictest environmental regulations and the expectations of consumers concerned about the environmental impact of their manufacturing.

At the same time, TECH has designed a Postgraduate Certificate program where students can acquire up-to-date theoretical and practical knowledge on how to improve industrial procedures, minimize risks, and contribute to the sustainability of the surrounding ecosystems. The syllabus of this program covers the main management systems for the water used in these tasks and the management of waste generated by production practices. It also analyzes the ISO 9001 standard and how it verifies the control and assurance of tasks in this field. It also delves into calibration, equipment maintenance, and certifications of the resulting materials.

The entire educational itinerary will be conducted from a 100% online learning platform. In it, the students will have at their disposal conventional study materials, complementary readings, explanatory videos, and a wide variety of multimedia resources. In addition, in order to access these, you will not have to follow tight schedules or submit to continuous evaluations. On the contrary, the program has been shaped to ensure greater personalization of educational objectives. At the same time, this teaching opportunity is guided by a prestigious faculty with experience in different areas of corporate sustainability.

This **Postgraduate Certificate in Quality Management of Chemical Products and 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 self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*After completing this university program, you will be a true expert in the management of waste resulting from the activities of the Chemical Industry"*

“

*Analyze with the best teaching material the most effective tools to study corporate carbon and environmental footprints”*

*An intensive and exclusive Postgraduate Certificate program where you will learn about the regulations and strategies that regulate environmental management.*

*Extend your knowledge of this university program even further thanks to the scientific readings provided by the faculty.*

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.



# 02 Objectives

The purpose of this Postgraduate Certificate is to promote the learning of the students about the Quality Management of Chemical Products and Processes in this sector. In this way, at the end of the 6-week program, the graduate will be able to apply strategies related to sustainability and quality in the industry through critical analysis, evaluation, informed decision-making, and, ultimately, process improvement in real contexts. For this purpose, it has numerous teaching resources, accessible 24 hours a day, 7 days a week.





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*Increase your skills for the study and analysis of the environmental impact of industrial activity”*



## General Objectives

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- ◆ Promote environmental management in the chemical industry
- ◆ Apply quality strategies in the chemical industry
- ◆ Raise awareness of the importance of sustainability in terms of economy, environment, and society
- ◆ Compile technological advances in Chemical Engineering

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*The case studies provided by the faculty will lead you into the most effective methodologies for improving sustainability in the Chemical Industry”*





## Specific Objectives

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- ◆ Examine international regulations and environmental management tools in the chemical industry
- ◆ Develop specialized knowledge on corporate carbon and environmental footprinting
- ◆ Assess the importance of the chemical life cycle
- ◆ Specify the quality guarantees for chemical products and processes
- ◆ Present integrated management systems

# 03

# Course Management

TECH has brought together in this Postgraduate Certificate a management and faculty distinguished by their broad knowledge of the Chemical Industry, as well as the legal field applicable to the sector. In this way, students will have access to a syllabus prepared by experts in Quality Management of Chemical Products and Processes. In addition, thanks to the proximity of the faculty, the graduates will be able to resolve any doubts they may have about the content of this educational proposal throughout its development.





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*You will be able to solve any doubts you may have about the syllabus with the faculty specialized in chemistry that integrates this university program"*

## 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. Jiménez Gómez, Carmen Pilar

- ◆ Technical support staff at the Central Research Services of the University of Málaga
- ◆ Laboratory technician assistant at Acerinox
- ◆ Laboratory technician in Axaragua
- ◆ Predoctoral fellow at the Department of Inorganic Chemistry, Crystallography, and Mineralogy of the University of Málaga
- ◆ PhD in Chemical Sciences from the University of Málaga
- ◆ Chemical Engineer from the University of Málaga
- ◆ Direction of Final Degree Project in Chemical Engineering (2016)
- ◆ Teaching collaborator in different degrees: Chemical Engineering, Energy Engineering, and Industrial Organization Engineering at the University of Málaga

### Mr. Barroso Martín, Santiago

- ◆ Legal Advisor in Paralegal at Vicox Legal
- ◆ Legal Content Editor at Engineering and Advanced Integration S.A. / BABEL
- ◆ Administrative Lawyer at the Illustrious College of Lawyers of Málaga
- ◆ Paralegal Advisor at Garcia de la Vega Attorneys
- ◆ Law Degree from the University of Málaga
- ◆ Master's Degree in Corporate Legal Consultancy (MAJE) from the University of Málaga
- ◆ Expert Master's Degree in Labor, Tax and Accounting Consulting by Help T Pyme

# 04

# Structure and Content

The syllabus of this university program consists of a module that immerses students in sustainability and quality management in the chemical industry from the very beginning. To this end, TECH provides pedagogical tools that provide dynamism and facilitate learning about existing international regulations, environmental management, and the tools used to assess the impact generated by the sector's activities. All of this is complemented by educational resources hosted in a complete Virtual Library, accessible 24 hours a day.







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*Thanks to the Relearning method, you will reduce the long hours of study and will be able to consolidate key concepts in a short period of time"*

## Module 1. Sustainability and Quality Management in the Chemical Industry

- 1.1. Environmental Management Systems
  - 1.1.1. Environmental Management
  - 1.1.2. Environmental Impact Assessment
  - 1.1.3. ISO 14001 Standard and Continuous Improvement
  - 1.1.4. Environmental Auditing
- 1.2. Carbon and Environmental Footprint
  - 1.2.1. Corporate Sustainability
  - 1.2.2. Corporate Carbon and Environmental Footprint
  - 1.2.3. Carbon Footprint Calculation of an Organization
  - 1.2.4. Application of the Corporate Environmental Footprint
- 1.3. Sustainable Water Management in Industry
  - 1.3.1. Planning the Sustainable Use of Water Resources through Hydrological Modeling
  - 1.3.2. Responsible Use of Water in Industrial Chemical Processes
  - 1.3.3. Use of Nature-Based Solutions in Industry
- 1.4. Life Cycle Analysis
  - 1.4.1. Sustainable Industrial Production
  - 1.4.2. Product Life Cycle Components
  - 1.4.3. Phases of the Life Cycle Analysis Methodology
  - 1.4.4. ISO 14040 Standard for Product Life Cycle Assessment
- 1.5. Quality Management Systems
  - 1.5.1. Quality Principles and Evolution
  - 1.5.2. Quality Control and Assurance
  - 1.5.3. ISO 9001
- 1.6. Process Quality Assurance
  - 1.6.1. Quality Management Systems and Its Processes
  - 1.6.2. Steps in the Quality Assurance Process
  - 1.6.3. Standardized Processes
- 1.7. Quality Assurance of the Final Product
  - 1.7.1. Standardization
  - 1.7.2. Equipment Calibration and Maintenance
  - 1.7.3. Product Approvals and Certifications





- 1.8. Implantation of Integrated Management System
  - 1.8.1. Integrated Management System
  - 1.8.2. Implantation of Integrated Management System
  - 1.8.3. GAP Analysis
- 1.9. Change Management in the Chemical Industry
  - 1.9.1. Change Management in the Industry
  - 1.9.2. Industry of Chemical Processes
  - 1.9.3. Change Planning
- 1.10. Sustainability and Minimization: Integrated Waste Management
  - 1.10.1. Minimization of Industrial Waste
  - 1.10.2. Stages in the Minimization of Industrial Waste
  - 1.10.3. Recycling and Treatment of Industrial Waste

“With this program you will address the sustainable management of water resources and the challenges of responsible water use in 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.





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

## Case Study to contextualize all content

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

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*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 Quality Management of Chemical Products and Processes guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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*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 Quality Management of Chemical Products and 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 Quality Management of Chemical Products and Processes**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



\*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.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

**tech** global  
university

personalized service innovation

knowledge present training

online training

development languages

virtual classroom

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