

Postgraduate Certificate L+O+I in Chemical Engineering



Postgraduate Certificate L+O+I in Chemical Engineering

- » 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/l-o-i-chemical-enigeering

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01

Introduction

Information has become one of the main economic, political, and social assets of 21ST-century civilization. Its impact is latent in fields such as science, where remote databases and bibliographic management software are proliferating. In order to keep abreast of methods on advances in academic areas such as Chemical Engineering, it is imperative to master these tools. That is why TECH has put together this highly comprehensive syllabus where the most advanced methodological and research resources are addressed, as well as the trends for their dissemination. This program implements disruptive learning systems, such as Relearning, so that each graduate can incorporate these trends into their practice. At the same time, they will be provided with a variety of complementary multimedia materials.



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This 100% online program will apply the Relearning methodology to address the scientific marketing and dissemination strategies best suited to the demands of the Chemical Industry”

The empirical design of a research project is the key to the successful development of scientific projects that may occur in the Chemical Industry. Its importance is radical in choosing the methodology to be used, the tools, and managing the results. In addition, this technique makes it possible to determine in advance the means to disseminate the innovations resulting from any type of process.

This theoretical and practical knowledge has been gathered by TECH in this Postgraduate Certificate, through which engineers will address key aspects of efficient experimental design. At the same time, they will be able to delve into scientific communication strategies, analyzing the different scripts according to the target audience that will be notified of the most relevant stages of the study. They will also gain a solid understanding of the basics of intellectual property in the chemical industry and technology transfer between research centers and companies.

The highly experienced faculty of this program will guide the students in the practical application of these concepts, facilitating comprehensive learning. Therefore, they will be prepared to face and execute essential marketing strategies to promote new products in the sector.

This syllabus will be taught 100% online from a very complete platform where explanatory videos, complementary readings, interactive summaries, among other multimedia resources will be available. These contents will be accessible from any device connected to the Internet, which will avoid unnecessary trips to on-site centers. Instead, each graduate will be able to access the materials wherever and whenever they choose to fit in with their other responsibilities. In short, TECH has provided a methodology and educational space where they can acquire skills and competencies in a fast and flexible way. Therefore, they will be prepared to disseminate and discuss their research results in the most diverse scientific-technical frameworks.

This **Postgraduate Certificate in L+O+I in Chemical Engineering** 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 eminently practical contents of the book provide information on those 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



Through this program you will master the management of L+O+I results, as well as the elements that define intellectual property and patents"

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The study of this program, in an interactive and online platform, will avoid unnecessary trips to an on-site educational center”

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.

All materials in this program will be accessible remotely, from the portable device of your choice.

A Postgraduate Certificate that includes self-assessment tests and other teaching methods to enhance your learning quickly and flexibly.



02

Objectives

This program will train TECH students on all the fundamentals and practices of research, innovation, and development in the field of Chemical Engineering. Through its modules, it will be possible to examine the most accurate scientific methodologies and analyze technology transfer in the sector, so that each participant, upon graduation from the program, will have the skills to design experiments and manage L+O+I results, and will be able to understand intellectual property and how to communicate educational findings in an efficient way.



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This Postgraduate Certificate is all you need to incorporate into your practice the keys to scientific writing and dissemination within the Chemical Industry"



General Objectives

- ◆ Apply fundamental concepts in the design of chemical products and processes
- ◆ Raise awareness of the importance of sustainability in terms of economy, environment, and society
- ◆ Evaluate the applicability and potential advantages of new technologies
- ◆ Develop a comprehensive view of modern chemical engineering
- ◆ Examine the current situation of L+O+I in Chemical Engineering in order to highlight its importance in the current sustainability framework
- ◆ Encourage innovation and creativity in the research processes in Chemical Engineering
- ◆ Analyze the ways of protection, exploitation, and communication of L+O+I results
- ◆ Explore job opportunities in L+O+I in Chemical Engineering





Specific Objectives

- ◆ Apply a rigorous scientific methodology in Chemical Engineering research
- ◆ Determine the importance of the creative process in L+O+I
- ◆ Compile strategies and types of innovation
- ◆ Review international financing options for L+O+I in Chemical Engineering
- ◆ Examine the protection of L+O+I results
- ◆ Effectively evaluate scientific communication and dissemination tools
- ◆ Analyze the potential of a research career in Chemical Engineering

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Thanks to this 6-week program, you will become a true expert in the design and empirical modeling of experiments”

03

Course Management

The faculty selected by TECH for this program have extensive experience in the areas of research and industrialization within Chemical Engineering. Their in-depth knowledge of scientific methodology, innovation, intellectual property, and scientific communication guarantees the students a unique opportunity to update their knowledge. Furthermore, their participation in L+O+I projects and collaborations with companies in the sector will enable graduates to understand the relationship between education and practice. A comprehensive understanding through which students will update their skills and face the most pressing challenges.



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The faculty of this program is well versed in the sources and platforms for the dissemination of scientific results in the chemical area"

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

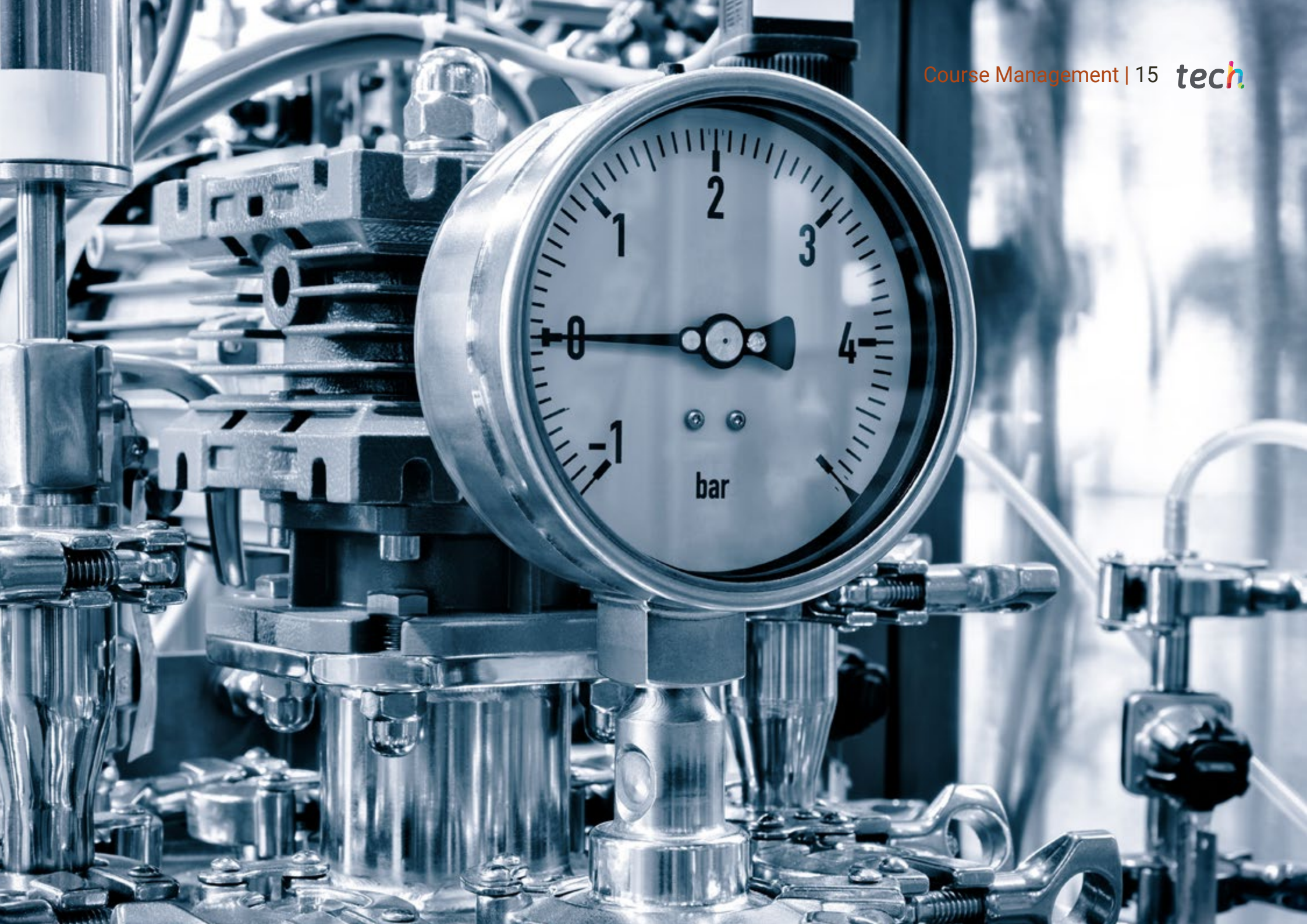
Professors

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



04

Structure and Content

The Postgraduate Certificate in L+O+I in Chemical Engineering covers the most innovative approaches to scientific methodology, design of experiments, empirical modeling, and academic writing strategies. In addition, this syllabus is characterized by its focus on ways to disseminate innovations and the most relevant marketing strategies. It also addresses intellectual property, patents, and offers an analysis of different tools and platforms that are part of these processes. In order to incorporate the mastery of all its concepts, the program has a cutting-edge Relearning training system and a variety of educational materials in different formats.



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In this program, you will strengthen your skills through complementary readings, explanatory videos, interactive summaries, and much more"

Module 1. L+O+I Chemical Engineering

- 1.1. L+O+I Chemical Engineering
 - 1.1.1. Scientific Methodology Applied to Investigation
 - 1.1.2. Factorial Design of Experiments
 - 1.1.3. Empirical Modeling
 - 1.1.4. Scientific Writing Strategies
- 1.2. Technological Innovation Strategies in the Chemical Industry: Innovation and Creativity
 - 1.2.1. Innovation in the Chemical Industry
 - 1.2.2. Creative Process
 - 1.2.3. Creativity Facilitating Techniques
- 1.3. Innovation in Chemical Engineering
 - 1.3.1. Taxonomy of Innovation
 - 1.3.2. Types of Innovation
 - 1.3.3. Dissemination of Innovation
 - 1.3.4. ISO 56000 Standard / ISO 166000 Terminology
- 1.4. Marketing of Innovation
 - 1.4.1. Differentiation and Positioning Strategies in Chemical Engineering
 - 1.4.2. Communication Management in Innovative Chemical Engineering
 - 1.4.3. Ethics in Chemical Engineering Innovation Marketing
- 1.5. Databases and Bibliographic Management Software
 - 1.5.1. Scopus
 - 1.5.2. Web of Science
 - 1.5.3. Scholar Google
 - 1.5.4. Bibliographic Management with Mendeley
 - 1.5.5. Bibliographic Management with EndNote
 - 1.5.6. Bibliographic Management with Zotero
 - 1.5.7. Patent Search in Databases
- 1.6. International Research Funding Programs
 - 1.6.1. Application for L+O+I projects
 - 1.6.2. Marie-Curie Research Fellowship Program
 - 1.6.3. International Research Funding Collaborations



- 1.7. Management of the Protection and Exploitation of L+O+I Results
 - 1.7.1. Intellectual Property
 - 1.7.2. Patents
 - 1.7.3. Industrial Property
- 1.8. Tools for the Communication of L+O+I Results
 - 1.8.1. Scientific Events
 - 1.8.2. Scientific Articles and Reviews
 - 1.8.3. Scientific Dissemination
- 1.9. Research Career in Chemical Engineering
 - 1.9.1. The Researcher in Chemical Engineering Professional Background and Education
 - 1.9.2. Chemical Engineering Advances
 - 1.9.3. Responsibility and Ethic in a Research Career in Chemical Engineering
- 1.10. Transfer of Results and Technology between Research Centers and Companies
 - 1.10.1. Interaction of Participants and Dynamics of Technology Transfer
 - 1.10.2. Technology Monitoring
 - 1.10.3. University-Business Projects
 - 1.10.4. Spin-off Companies

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Enroll in this Postgraduate Certificate and gain access to the most disruptive methodology in the 100% online learning landscape"

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 Postgraduate Certificate in L+O+I in Chemistry Engineering 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 L+O+I in Chemical Engineering** 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 L+O+I in Chemical Engineering**

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.



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