Postgraduate Diploma

Chemical Process Engineering

tech technological university

tech universidad tecnológica

Postgraduate Diploma
Chemical Process Engineering

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

Website: **www.techtitute.com/pk/engineering/postgraduate-diploma/postgraduate-diploma-chemical-process-engineering**

Index

01

Introduction

The development of chemical products depends on an adequate capacity to anticipate the magnitude of their reactions. In this sense, sophisticated simulation tools and software have become a valuable ally for engineers working in this field. TECH provides the analysis of these innovations in a cutting-edge syllabus. Therefore, upon completion of their approach, the graduates of this program will have mastered the optimization of these processes. This program also covers advanced design of transfer operations and reactors. All of this, through a 100% online educational modality that will avoid uncomfortable displacements for the students. In this way, with the help of a portable device, the engineer will be able to complete this program anywhere in the world.

In this 100% online course, you will be able to update your knowledge and competences about simulations, creation, and optimization of products in the Chemical Industry"

In Chemical Engineering, reactors are of superlative importance as they enhance efficiency by maximizing conversions and reducing by-products. They also facilitate the scalability of reactions and, at the same time, better control the safety of these processes. Some of the most advanced among them, such as photo-catalysts and microfluidics, which have made it possible to explore new conditions and synthesis routes for the substances. Its mastery guarantees the experts a superior research capacity as well as a praxis of excellence.

For this reason, TECH has integrated disruptive concepts, tools, and work methodologies in this field in this Postgraduate Diploma. Through their study, students will learn about the different types of reactors as well as their design and kinetics in chemical reactions.

On the other hand, this program has a total of 4 modules and, in addition to the previously mentioned chemical reactors, it includes the most advanced criteria on transfer operations, production, simulation, and process optimization. In particular, specific heat exchangers and the principles of vapor-liquid equilibrium will be discussed. In addition, the syllabus emphasizes the most advanced software for pre- and controlled evaluation of separations, multi-product plants, and others.

This educational itinerary is accompanied by an innovative 100% online methodology where the exclusive Relearning teaching system stands out. This last one favors the rapid and flexible assimilation of concepts and competencies through the gradual reiteration of different aspects during each of the subjects addressed. On the other hand, this Postgraduate Diploma is not subject to hermetic schedules or rigid evaluation chronograms. In this way, by taking the course, professionals will be able to establish their routines in correspondence with other personal or work obligations.

This **Postgraduate Diploma in Chemical Process 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 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 work
- Content that is accessible from any fixed or portable device with an Internet connection

Don't wait any longer to start this program where you will delve into the most advanced types of reactors in the Chemical Industry"

A Postgraduate Diploma that is not incompatible with other responsibilities, allowing you to study or work throughout its 6-month duration"

This program is not subject to tight schedules and you will be able to access its content whenever and wherever you want.

After this program, you will be proficient in the fundamentals of chemical and environmental analysis prior to the manufacture of chemical products.

The program's teaching staff includes professionals from the industry who contribute their work experience to this 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 academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This TECH program will provide students with a deep understanding of mass and heat transfer operations in chemical and biotechnological systems.In turn, it will examine the phases of design, operation and optimization of reactors, products and processes. In addition, its study will promote the efficient use of tools and software that guarantee the quality of a project in this scientific area, as well as its costs. All this will guarantee graduates the mastery of numerous skills to face the challenges of the Chemical Industry from a praxis of excellence.

After this Postgraduate Diploma, you will be able to implement in your practice the use of simulation and optimization software for chemical processes such as Unisim and Matlab"

General Objectives

- Analyze the principles and methods for the separation of substances in multicomponent systems
- Master advanced techniques and tools for the configuration of heat exchange networks
- Apply fundamental concepts in the design of chemical products and processes
- Integrate environmental considerations in the design of chemical processes
- Analyze optimization techniques and simulation of chemical processes
- Apply simulation techniques to common unit operations in the chemical industry
- Examine the multi-product industry and strategies for its optimization
- Raise awareness of the importance of sustainability in terms of economy, environment, and society
- Promote environmental management in the chemical industry
- Compile technological advances in Chemical Engineering
- Evaluate the applicability and potential advantages of new technologies
- Develop a comprehensive view of modern chemical engineering
- Contextualize the importance of biomass in the current framework of sustainable development
- Determine the importance of biomass as an energy resource
- 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
- Explore innovative applications of chemical reactors
- Promote the integration of theoretical and practical aspects of chemical reactor design

Specific Objectives

Module 1. Advanced Transfer Operations Design

- Analyze the fundamentals of ideal solutions and their deviations from ideality as applied to transfer operations
- Evaluate the effectiveness of supercritical fluids as solvents in transfer operations
- Delve into extraction techniques for the separation of multiphase systems
- Examine the mechanisms involved in the separation of substances by adsorption
- Develop a comprehensive approach to the design of membrane separation processes
- Substantiate the principles related to heat transfer in exchangers
- Propose configurational classifications of heat exchangers
- Determine the design of heat exchanger networks

Module 2. Advanced Chemical Reactor Design

- Apply mathematical models for the design of fixed-bed reactors with different technical specifications
- Analyze the effect of fluidization and the models that define it in fluidized bed reactors
- Design specific columns for fluid-fluid specifications
- Evaluate the influence of configuration on the design of electrochemical reactors
- Explore innovative applications in membrane reactors and photo-reactors
- Examine the different configurations for gasification reactors
- Optimize bioreactor design based on the mode of operation
- Selecting appropriate reactors for different polymerization processes

Module 3. Processes and Chemical Products Design

- 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

Module 4. Chemical Process Simulation and Optimization

- Establish the basis for the optimization of chemical processes
- Establish the Pinch method as a key tool for energy management
- Use optimization methods under uncertainty
- Examine chemical process simulation and optimization software
- Simulate essential separation operations in the Chemical Industry
- Perform simulations of heat exchange networks
- Expose the fundamental aspects of multi-product plants

You will achieve your educational goals comfortably, from home, without unnecessary travel thanks to TECH's 100% online platform"

03

Course Management

The teaching staff that TECH has assembled for this program stands out for its experience in industry and chemical research. These professionals have several scientific publications in high-impact journals among the academic community and participate assiduously in congresses. Their up-to-date knowledge and their relevant backgrounds allow them to impart advanced concepts and disruptive trends. In this way, students will have access to the latest developments and practical examples of the industry in an intensive and rigorous way. In conclusion, these specialists are synonymous with educational excellence for each of the graduates of this Postgraduate Diploma.

Master the latest developments in chemical reactor design with the guidance of a faculty of top specialists"

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. Torres Liñán, Javier

- Expert in Chemical Engineering and Associated technologies
- Specialist in Environmental Chemical Technology
- Collaborator of the 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

Dr. Montaña, Maia

- Postdoctoral Researcher in the Department of Chemical Technology,
- Energetic, and Mechanical at 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

04

Structure and Content

In its 4 modules, this Postgraduate Diploma addresses a wide range of concepts, technologies, and procedures related to the design and optimization of chemical processes. From transfer operations and the approach of advanced reactors to the simulation of complex processes, the students will have the opportunity to update their theoretical knowledge and practical skills. It will also delve into the use of cutting-edge software tools to implement these innovations. In the analysis of these contents, the Relearning methodology will be present, which facilitates the incorporation of competencies in the quickest, most flexible, and always in a 100% online modality.

Enroll in this Postgraduate Diploma and be part of the most exclusive educational community in the online panorama: the TECH community"

Module 1. Advanced Transfer Operations Design

1.1. Vapor-Liquid Equilibrium in Multicomponent Systems
- 1.1.1. Ideal Solutions
- 1.1.2. Vapor-liquid Diagrams
- 1.1.3. Deviations from Ideality: Activity Coefficients
- 1.1.4. Azeotropes

1. 2. Rectification of Multicomponent Mixtures
- 1.2.1. Differential or Flash Distillation
- 1.2.2. Rectification Columns
- 1.2.3. Energy Balances in Condensers and Boilers
- 1.2.4. Calculation of the Number of Plates
- 1.2.5. Plate Efficiency and Overall Efficiency
- 1.2.6. Discontinuous Rectification

1. 3. Supercritical Fluids
- 1.3.1. Use of Supercritical Fluids as Solvents
- 1.3.2. Elements of Supercritical Fluid Systems
- 1.3.3. Applications of Supercritical Fluids

1.4. Extraction
- 1.4.1. Liquid-Liquid Extraction
- 1.4.2. Extraction in Plate Columns
- 1.4.3. Leaching
- 1.4.4. Drying
- 1.4.5. Crystallization

1. 5. Solid Phase Extraction
- 1.5.1. The PSE Process
- 1.5.2. Addition of Modifiers
- 1.5.3. Applications in the Extraction of High Value-Added Compounds

1.6. Adsorption
- 1.6.1. Adsorbate-Adsorbent Interaction
- 1.6.2. Adsorption Separation Mechanisms
- 1.6.3. Adsorption Equilibrium
- 1.6.4. Contact Methods
- 1.6.5. Commercial Adsorbents and Applications

1. 7. Membrane Separation Processes
- 1.7.1. Membrane Types
- 1.7.2. Membrane Regeneration
- 1.7.3. Ion Exchange

1. 8. Heat Transfer in Complex Systems
- 1.8.1. Molecular Energy Transport in Multicomponent Mixtures
- 1.8.2. Equation of Conservation of Energy Thermal
- 1.8.3. Turbulent Energy Transport
- 1.8.4. Temperature-Enthalpy Diagrams

1. 9. Heat Exchangers
- 1.9.1. Classification of Heat Exchangers According to Flow Direction
- 1.9.2. Classification of Heat Exchangers According to Structure
- 1.9.3. Exchanger Applications in Industry

1. 10. Heat Exchanger Networks
- 1.10.1. Sequential Synthesis of an Exchanger Network
- 1.10.2. Simultaneous Synthesis of an Exchanger Network
- 1.10.3. Application of the Pinch Method to Heat Exchanger Networks

Module 2. Advanced Chemical Reactor Design

2.1. Reactor Design
- 2.1.1. Kinetics of Chemical Reactions
- 2.1.2. Reactor Design
- 2.1.3. Simple Reaction Design
- 2.1.4. Multiple Reaction Design

2.2. Fixed Bed Catalytic Reactors
- 2.2.1. Mathematical Models for Fixed-Bed Reactors
- 2.2.2. Fixed Bed Catalytic Reactor
- 2.2.3. Adiabatic Reactor with and without Recirculation
- 2.2.4. Non Adiabatic Reactors

2.3. Fluidized-Bed Catalytic Reactors
- 2.3.1. Gas-Solid Systems
- 2.3.2. Fluidization Regions
- 2.3.3. Fluidized Bed Bubble Models
- 2.3.4. Reactor Models for Fine and Large Particles

2.4. Fluid-Fluid Reactors and Multiphase Reactors
- 2.4.1. Design of Infill Columns
- 2.4.2. Design of Gushing Columns
- 2.4.3. Multiphase Reactor Applications

2.5. Electrochemical Reactors
- 2.5.1. Over-potential and Electrochemical Reaction Rate
- 2.5.2. Influence on the Geometry of Electrodes
- 2.5.3. Modular Reactors
- 2.5.4. Model of Electrochemical Reactor Piston Flow
- 2.5.5. Model of Electrochemical Reactor Perfect Mixing

2.6. Membrane Reactors
- 2.6.1. Membrane Reactors
  - 2.6.1.1. According to Membrane Position and Reactor Configuration
- 2.6.2. Membrane Reactors Applications
- 2.6.3. Design of Membrane Reactors for the Production of Hydrogen
- 2.6.4. Membrane Bioreactors

2.7. Photo-reactors
- 2.7.1. The Photo-reactors
- 2.7.2. Photo-reactor Applications
- 2.7.3. Photo-reactor Design for Pollutant Removal

2.8. Gasification and Combustion Reactors
- 2.8.1. Design of Fixed Bed Gasifiers
- 2.8.2. Design of Fluidized Bed Gasifiers
- 2.8.3. Drag-Flow Gasifiers

2.9. Bioreactors
- 2.9.1. Bioreactors by Mode of Operation
- 2.9.2. Design of a Batch Bioreactor
- 2.9.3. Design of a Continuous Bioreactor
- 2.9.4. Design of a Semi-continuous Bioreactor

2.10. Polymerization Reactors
- 2.10.1. Polymerization Process
- 2.10.2. Anionic Polymerization Reactors
- 2.10.3. Staged Polymerization Reactors
- 2.10.4. Free Radical Polymerization Reactors

Module 3. Processes and Chemical Products Design

3.1. Chemical Products Design
- 3.1.1. Chemical Products Design
- 3.1.2. Stages in Product Design
- 3.1.3. Chemical Products Categories

3.2. Strategies in Chemical Products Design
- 3.2.1. Detection of Market Needs
- 3.2.2. Conversion of Requirements into Product Specifications
- 3.2.3. Sources of Idea Production
- 3.2.4. Strategies for the Idea Screening
- 3.2.5. Variables Influencing Idea Selection

3.3. Strategies in Chemical Products Manufacturing
- 3.3.1. Prototypes in Chemical Products Manufacturing
- 3.3.2. Chemical Products Manufacture
- 3.3.3. Specific Design of Basic Chemicals
- 3.3.4. Scaling

3.4. Process Design
- 3.4.1. Flow-sheeting for Process Design
- 3.4.2. Process Understanding Diagrams
- 3.4.3. Heuristic Rules in the Design of Chemical Processes
- 3.4.4. Flexibility of Chemical Processes
- 3.4.5. Problem Solving Associated with Process Design

3.5. Integrated Environmental Remediation in Chemical Processes
- 3.5.1. Integration of the Environmental Variable in Process Engineering
- 3.5.2. Recirculation Flows in the Process Plant
- 3.5.3. Treatment of Effluents Produced in the Process
- 3.5.4. Minimization of Discharges from Process Plant Activities

3.6. Process Intensification
- 3.6.1. Intensification Applied to Chemical Processes
- 3.6.2. Intensification Methodologies
- 3.6.3. Intensification in Reaction and Separation Systems
- 3.6.4. Process Intensification Applications: Highly Efficient Equipment

3.7. Stock Management
- 3.7.1. Inventory Management
- 3.7.2. Selection Criteria
- 3.7.3. Inventory Sheets
- 3.7.4. Procurement

3.8. Processes and Chemical Products Economic Analysis
- 3.8.1. Fixed and Working Capital
- 3.8.2. Capital and Manufacturing Cost Estimation
- 3.8.3. Equipment Cost Estimate
- 3.8.4. Estimation of Labor and Raw Material Costs

3.9. Profitability Estimation
- 3.9.1. Global Investment Estimation Methods
- 3.9.2. Detailed Investment Estimation Methods
- 3.9.3. Chemical Investment Selection Criteria
- 3.9.4. The Time Factor in Cost Estimation

3.10. Application in the Chemistry Industry
- 3.10.1. Glass Industry
- 3.10.2. Cement Industry
- 3.10.3. Ceramic Industry

Module 4. Chemical Process Simulation and Optimization

4.1. Optimization of Chemical Processes
- 4.1.1. Heuristic Rules in Optimization of Processes
- 4.1.2. Determination of Degrees of Freedom
- 4.1.3. Selection of Design Variables

4.2. Energy Optimization
- 4.2.1. Pinch Method Advantages
- 4.2.2. Thermodynamic Effects Influencing Optimization
- 4.2.3. Cascade Diagrams
- 4.2.4. Enthalpy-Temperature Diagrams
- 4.2.5. Corollaries of the Pinch Method

4.3. Optimization Under Uncertainty
- 4.3.1. Lineal Programming (LP)
- 4.3.2. Graphical Methods and Simplex Algorithm in LP
- 4.3.3. Non-Lineal Programming
- 4.3.4. Numerical Methods for the Optimization of Nonlinear Problems

4.4. Simulation of Chemical Processes
- 4.4.1. Simulated Process Design
- 4.4.2. Property Estimation
- 4.4.3. Thermodynamic Packages

4.5. Software for Chemical Process Simulation and Optimization
- 4.5.1. Aspen plus and Aspen hysys
- 4.5.2. Unisim
- 4.5.3. Matlab
- 4.5.4. COMSOL

4.6. Simulation of Separation Operations
- 4.6.1. Marginal Steam Flow Rate Method for Rectification Columns
- 4.6.2. Rectifying Columns with Thermal Coupling
- 4.6.3. Empirical Method for the Design of Multicomponent Columns
- 4.6.4. Calculation of the Number Minimally of Plates

4.7. Heat Exchanger Simulation
- 4.7.1. Simulation of a Shell and Tube Heat Exchanger
- 4.7.2. Heads on Heat Exchangers
- 4.7.3. Configurations and Variables to be Defined in Heat Exchanger Design

4.8. Reactor Simulation
- 4.8.1. Ideal Reactor Simulation
- 4.8.2. Multiple Reactor Systems Simulation
- 4.8.3. Reacting or Equilibrium Reactor Simulation

4.9. Multi-Product Plants Design
- 4.9.1. Multi-Product Plant
- 4.9.2. Multi-Product Plants Advantages
- 4.9.3. Multi-Product Plants Design

4.10. Multi-Product Plants Optimization
- 4.10.1. Factors Affecting Optimization Efficiency
- 4.10.2. Factorial Design Applied to Multiproduct Plants
- 4.10.3. Optimization of Equipment Size
- 4.10.4. Remodeling of Existing Plants

You will have at your disposal up-to-date materials, complementary readings, and rigorous explanatory videos, among other multimedia resources"

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

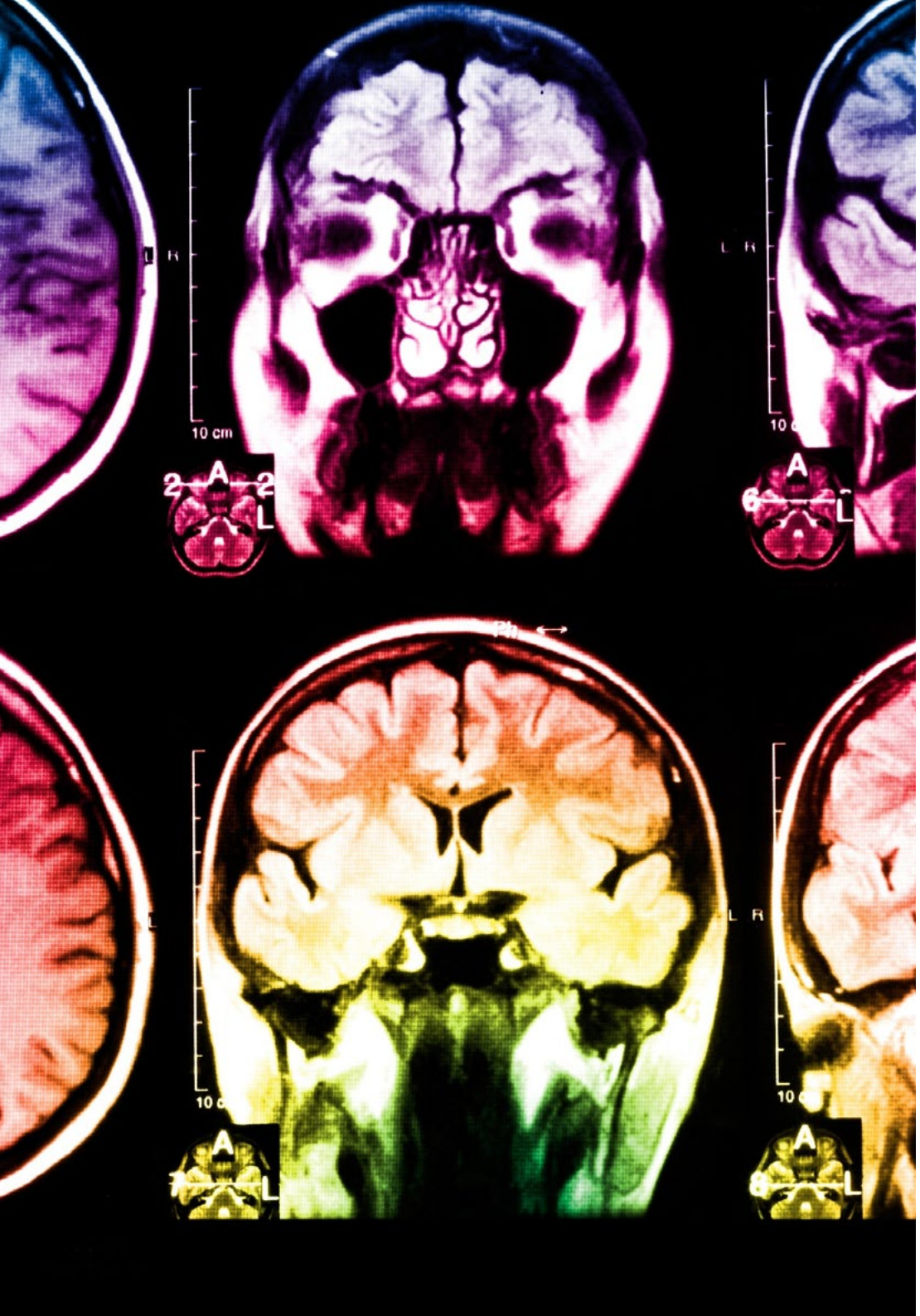
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

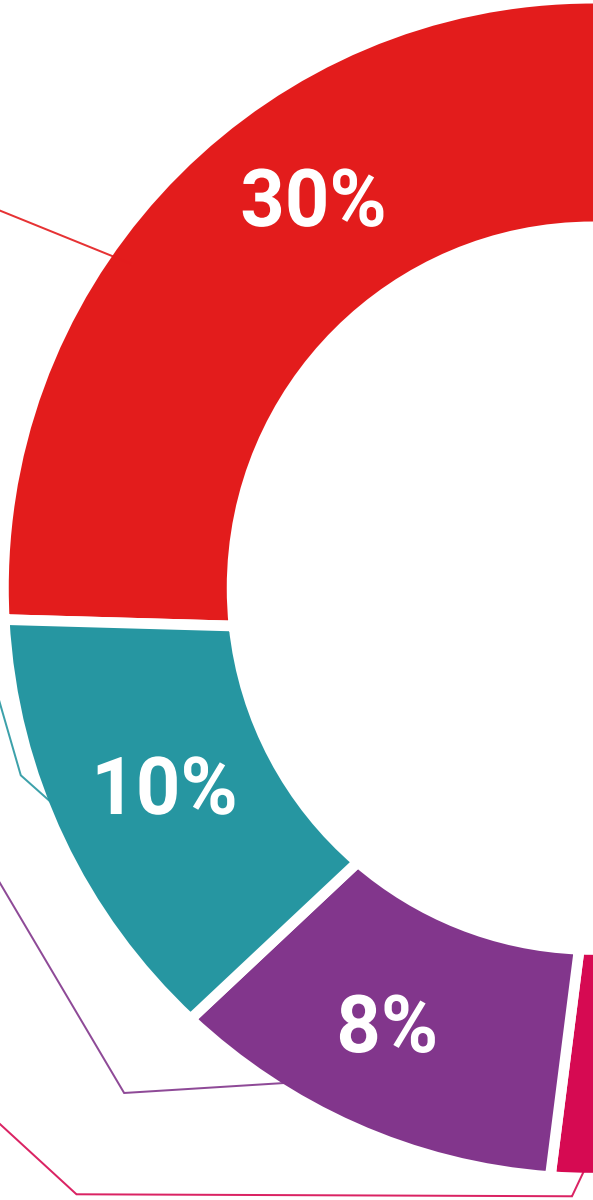
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

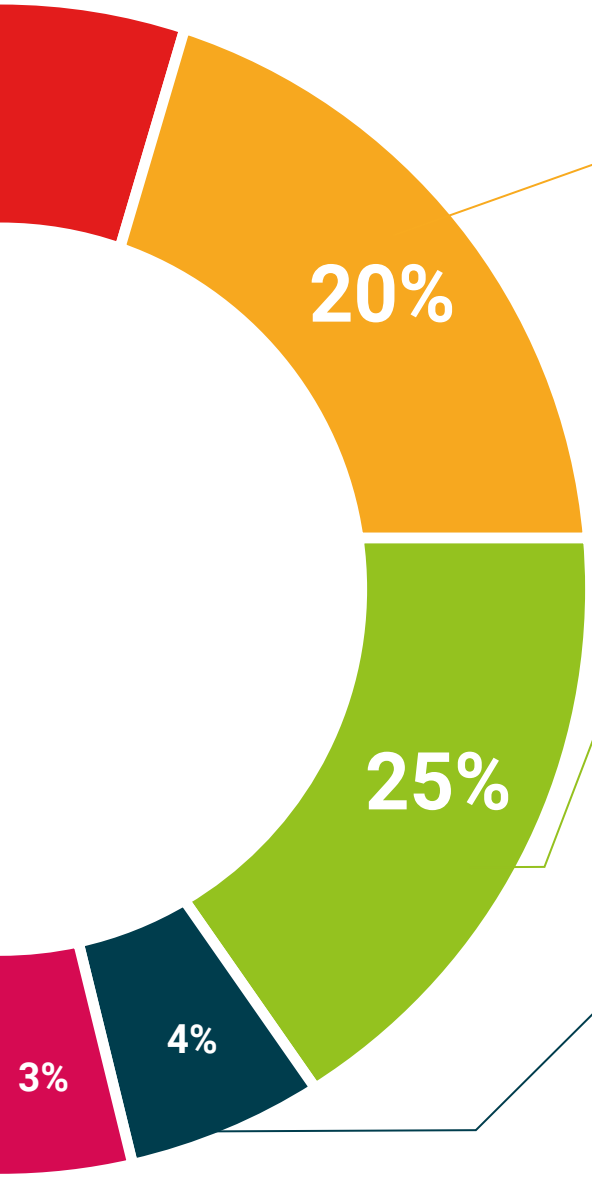
Practising Skills and Abilities

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 Diploma in Chemical Process Engineering guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Chemical Process Engineering** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Chemical Process Engineering**

Official Nº of Hours: **600 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Chemical Process Engineering

This is a qualification awarded by this University, equivalent to 600 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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- Schedule: **at your own pace**
- Exams: **online**

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