

Postgraduate Certificate Gas-Related Toxicological Emergencies for Nursing





Postgraduate Certificate Gas-Related Toxicological Emergencies for Nursing

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

Website: www.techtute.com/us/nursing/postgraduate-certificate/gas-related-toxicological-emergencies-nursing

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 18

05

Methodology

p. 22

06

Certificate

p. 30

01

Introduction

Gas poisoning has a high incidence that is often accompanied by high mortality. Almost always, the route of entry into the body is inhalation and due to the toxic capacity of each gas, very varied symptoms occur in each patient, which is why the global demand in the health field demands nursing professionals trained to respond assertively in any situation. For this reason, programs are developed with the following, which focuses on all those important aspects when facing a gas poisoning situation in the emergency room.





“

*Know the correct way to act
in the event of Gas-Related
Toxicological Emergencies to be
able to carry out quality practice”*

There are many types of gases such as chlorine, sulfur dioxide or ammonia that can be released into the environment due to an industrial accident and cause a public health problem. On the other hand, it is also possible that an accident may occur in a work environment involving a gas that does not dissolve easily, so it does not produce initial alarm signs, but in the long term it can lead to a serious case of poisoning.

There are countless cases like these that can cause a major accident in the emergency room, making it essential to have professionals trained in identifying the signs in time and treating them to guarantee their health. For this reason, a program has been developed that covers the different aspects related to the consumption and addiction behavior of these substances.

Furthermore, it is a 100% online Postgraduate Certificate that provides students with comfortable study and ease, wherever and whenever they want it. All you need is a device with internet access to take your career one step further. A modality in keeping with the current times with all the guarantees to position the nurse in a highly demanded sector.



This Postgraduate Certificate in Gas-Related Toxicological Emergencies will help you keep up to date in order to provide comprehensive quality care to your patients"

This **Postgraduate Certificate in Gas-Related Toxicological Emergencies for Nursing** contains the most complete and updated scientific program in the market. The most important features of the program include:

- ♦ The development of clinical cases presented by toxicology experts
- ♦ 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
- ♦ The practical exercises where the self-evaluation process can be carried out to improve learning
- ♦ Clinical and diagnostic imaging and testing iconography
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ Its special emphasis on toxicology research 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

“

Increase your confidence in decision-making by updating your knowledge through this Postgraduate Certificate”

Take the opportunity to learn about the latest advances in this field and apply it to your daily practice.

Thanks to countless practical exercises you will have the opportunity to put your knowledge to the test and integrate it into your work environment.

The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.



02 Objectives

This program is designed to strengthen the skills of nurses when addressing a case of gas poisoning. The above is possible thanks to the great effort of the teaching team, who have developed a program that perfectly meets the demands of a labor and health market that encounters cases of this nature every day. After the program, the student will be able to face new professional challenges of a global nature with an innovative perspective and an international vision.





“

Detects complications related to toxic gases and their impact on the patient's health"



General Objectives

- Define the basic and general principles of care for the severely poisoned patient
- Identify the main toxics available in our environment
- Describe the main signs and symptoms related to severe acute poisoning and its organ involvement
- Implement mechanisms to protect the severely poisoned patients and those around them
- Detect complications related to the related toxicant or to the patient's health status
- Explain the process of care, diagnosis and treatment of the severely poisoned patient in all its dimensions



Take the next step to get up to date on the latest developments in Gas-Related Toxicology Emergencies”





Specific Objectives

- ◆ Explain the toxicokinetics of fluorine and hydrofluoride and their treatment in case of acute poisoning
- ◆ Identify the toxicokinetics of selective β 2-adrenergic agonists and their treatment in case of acute poisoning
- ◆ Identify the toxicokinetics of cardioactive steroids and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of β -adrenergic antagonists and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of antibiotics, antifungals and antivirals and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of antimalarials and antiparasitics and their treatment in case of acute poisoning
- ◆ Identify the toxicokinetics of thyroid and antithyroid drugs and their treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of antithrombotics, anticoagulants, thrombolytics and antifibrinolytics and their treatment in case of acute poisoning

03

Course Management

The program developed for this Postgraduate Certificate has been designed by a group of professionals who specialize in the area of assessment and life support of poisoned patients in nursing. In this way, they use all their knowledge and experience to train professionals more prepared to intervene in patients who present a condition related to exposure to toxic substances, improving their chances of recovering.





“

Advance alongside leading professionals in your career path and learn about the effects of gases on the respiratory system”

Management



Dr. Álvarez Rodríguez, Cesáreo

- ♦ Coordinator of the Toxicology Working Group of SEMES Galicia
- ♦ Scientific Secretary of the Galician Society of Emergency Medicine (SEMES Galicia)
- ♦ Vice-Secretary for Training of the Spanish Society of Emergency Medicine (SEMES)
- ♦ Scientific Committee of the XXI Conference on Glycinic Toxicology and XI Conference on Toxicovigilance (October 2017)
- ♦ President of the Scientific Committee of the XXV Congress of the Spanish Society of Emergency Medicine (SEMES)
- ♦ Emergency Physician. Head of the Emergency Unit of Verín Hospital
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela with a Bachelor's Degree in Medicine and Surgery
- ♦ Research Sufficiency by the University of Salamanca
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Director of Doctoral Thesis in the area of Clinical Toxicology (Extraordinary Award)
- ♦ Member of the Editorial Board of the journal "Emergencias"
- ♦ Specialist in Family and Community Medicine
- ♦ Postgraduate Diploma in Health Promotion
- ♦ Advanced Life Support Instructor (American Heart Association Accredited)

Professors

Dr. Burillo-Putze, Guillermo

- ◆ Emergency Coordinator of the University Hospital Complex of the Canary Islands
- ◆ Degree in Medicine by La Laguna University. Doctor of Medicine by La Laguna University Extraordinary Doctorate Award
- ◆ Director of 5 Doctoral Theses
- ◆ Specialist in Family and Community Medicine
- ◆ Master's Degree in Emergency Medicine
- ◆ Postgraduate Diploma in Toxicology by the University of Seville
- ◆ Instructor Advanced Hazardous Materials Life Support (AHLS), American College of Clinical Toxicology, Washington, USA
- ◆ Accepted in the European Registry of Toxicologists (EUROTOX), managed by the Spanish Association of Toxicology (AETOX)
- ◆ Associate Professor of Emergency Medicine at the Faculty of Medicine of the University of La Laguna

Dr. Bajo Bajo, Angel Ascensiano

- ◆ Hospital Emergency Physician at the University Health Care Complex of Salamanca
- ◆ Degree in Medicine and Surgery from the University of Salamanca
- ◆ Specialist in Family and Community Medicine
- ◆ Doctor of Medicine from Salamanca University (First Extraordinary Doctorate Award)
- ◆ Certified in Emergency Medicine by the Spanish Society of Emergency Medicine (SEMES)

Mr. Carnero Fernandez, César Antonio

- ◆ Deputy Inspector of National Police
- ◆ TEDAX-NRBQ Specialist in the TEDAX-NRBQ Unit of the National Police.
- ◆ Teacher in TEDAX-NRBQ for national agencies and Security Forces and Corps

Ms. Giralde Martínez, Patricia

- ◆ Prehospital Emergency Physician in the Galician 061 Health Emergency Service
- ◆ Professional experience in Hospital Emergency Medicine at Montecelo Hospital
- ◆ Graduate in Medicine and Surgery from the University of Santiago de Compostela
- ◆ Specialist in Family and Community Medicine
- ◆ Master's Degree in Urgencies, Emergencies and Catastrophes by CEU San Pablo University
- ◆ Postgraduate University Professor in the course "Postgraduate Diploma in Urgencies and Emergencies" of the School of Health Sciences of the Complutense University of Madrid

Dr. Miguéns Blanco, Iria

- ◆ Hospital Emergency Physician at the Gregorio Marañón General University Hospital in Madrid
- ◆ Professional experience in Pre-Hospital Emergency Medicine in the Emergency Service of the Community of Madrid-SUMMA
- ◆ Degree in Medicine and Surgery from the University of Santiago de Compostela.
- ◆ Specialist in Family and Community Medicine
- ◆ Master's Degree in Emergency Medicine from the Complutense University of Madrid.
- ◆ Master's Degree in Teaching and Digital Competencies in Health Sciences by CEU Cardenal Herrera

Dr. Mayan Conesa, Plácido

- ◆ Graduate in Medicine and Surgery from the Universidad de Navarra
- ◆ Specialist in Family and Community Medicine
- ◆ Diploma of Advanced Studies from la Coruña University
- ◆ Emergency Physician at the University Hospital Complex of A Coruña
- ◆ Reviewer of the journal Emergencias
- ◆ Advanced Life Support Teacher

Dr. Maza Vera, María Teresa

- ◆ Degree in Medicine and Surgery in the University of Zaragoza
- ◆ Member of the Toxicology Working Group of SEMES Galicia
- ◆ Hospital Emergency Physician at the Álvaro Cunqueiro Hospital in Vigo
- ◆ Specialist in Family and Community Medicine
- ◆ Diploma of Advanced Studies in Health Sciences from the University of Vigo
- ◆ Coordinator of the Scientific Committee XXIV Autonomous Congress SEMES Galicia

Mr. Rodríguez Domínguez, José María

- ◆ National Police Officer
- ◆ TEDAX-NRBQ Specialist in the TEDAX-NRBQ Unit of the National Police
- ◆ TEDAX-NRBQ teacher for national and international organizations
- ◆ Degree in Biology from the University of Santiago de Compostela





Dr. Suárez Gago, María del Mar

- ♦ Specialist in Internal Medicine
- ♦ Member of the Toxicology Working Group of SEMES Galicia
- ♦ Degree in Medicine and Surgery University of the Basque Country
- ♦ Assistant Physician of the Emergency Department of the Verín Hospital
- ♦ Professional experience in out-of-hospital emergency medicine in Portugal
- ♦ VMER (Medical Emergency and Resuscitation Vehicle) accreditation of the Training Center of the National Institute of Medical Emergencies of Oporto (INEM)

“

Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject"

04

Structure and Content

The structure of the content has been designed by a team of professionals from the best educational centers and universities in the national territory, thus guaranteeing the excellence of the syllabus and that it meets the labor demands required in the sector. Consequently, the Postgraduate Certificate focused on the assessment and life support of poisoned patients has a syllabus that focuses on the key aspects when treating patients in these circumstances. In a well-structured way, the student will be able to apply what they have learned in their work environment immediately.





“

Learn in a didactic and practical way what to do when receiving a patient poisoned by gases and comply with a complete and updated program"

Module 1. Industrial Poisoning from Fumes

- 1.1. Effect of Different Types of Gases on the Respiratory System
- 1.2. Poisoning due to Inhalation of Fumes
 - 1.2.1. Preliminary
 - 1.2.1.1. Introduction
 - 1.2.1.2. Index
 - 1.2.1.3. Objective
 - 1.2.2. Mechanisms of Toxicity Production and Airway Damage
 - 1.2.3. Clinical Manifestations
 - 1.2.4. Medical History, Examination and Suspected Diagnosis
 - 1.2.5. Treatment Management
 - 1.2.6. Conclusions and Key Points
- 1.3. Irritant Fume Poisoning
 - 1.3.1. Preliminary
 - 1.3.1.1. Introduction
 - 1.3.1.2. Index
 - 1.3.1.3. Objective
 - 1.3.2. Hydrogen Sulfide Poisoning
 - 1.3.2.1. Sources of Exposure
 - 1.3.2.2. Toxicokinetics and Pathophysiology
 - 1.3.2.3. Clinical Manifestations and Diagnosis
 - 1.3.2.4. Treatment
 - 1.3.3. Fluorine Derivative Poisoning
 - 1.3.3.1. Sources of Exposure
 - 1.3.3.2. Pathophysiology
 - 1.3.3.3. Clinical Manifestations
 - 1.3.3.4. Diagnosis and Treatment
 - 1.3.4. Chlorine Derivative Poisoning
 - 1.3.4.1. General Aspects of Poisoning
 - 1.3.5. Nitrogen Derivative Poisoning
 - 1.3.5.1. Ammonia Poisoning
 - 1.3.5.2. Other Intoxications



- 1.4. Poisoning by Asphyxiating Fumes: Carbon Monoxide
 - 1.4.1. Preliminary
 - 1.4.1.1. Introduction
 - 1.4.1.2. Index
 - 1.4.1.3. Objective
 - 1.4.2. Definition and Causes of Carbon Monoxide Hazards
 - 1.4.3. Epidemiology of Carbon Monoxide Poisoning: A Known and a Hidden Epidemiology
 - 1.4.4. Sources of Carbon Monoxide Exposure and Medical and Legal Causes of Poisoning
 - 1.4.5. Pathophysiology of Carbon Monoxide Poisoning
 - 1.4.6. Clinical Manifestations
 - 1.4.7. Diagnosis of Suspicion and Diagnostic Confirmation. Pulse Oximetry in the Prehospital Setting
 - 1.4.8. Poisoning Severity Criteria
 - 1.4.9. Treatment of Poisoning
 - 1.4.10. Observation, Admission and Discharge Criteria
 - 1.4.11. Conclusions and Key Points
- 1.5. Chemical Asphyxia: Cyanide
 - 1.5.1. Preliminary
 - 1.5.1.1. Introduction
 - 1.5.1.2. Index
 - 1.5.1.3. Objective
 - 1.5.2. Sources of Exposure
 - 1.5.3. Toxicokinetics and Pathophysiology
 - 1.5.4. Clinical Manifestations, Suspicion and Confirmation Diagnosis
 - 1.5.5. Treatment
 - 1.5.6. Conclusions and Key Points



The best time to start boosting your professional career is today. Comply with a program designed by experts in toxicology”

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.





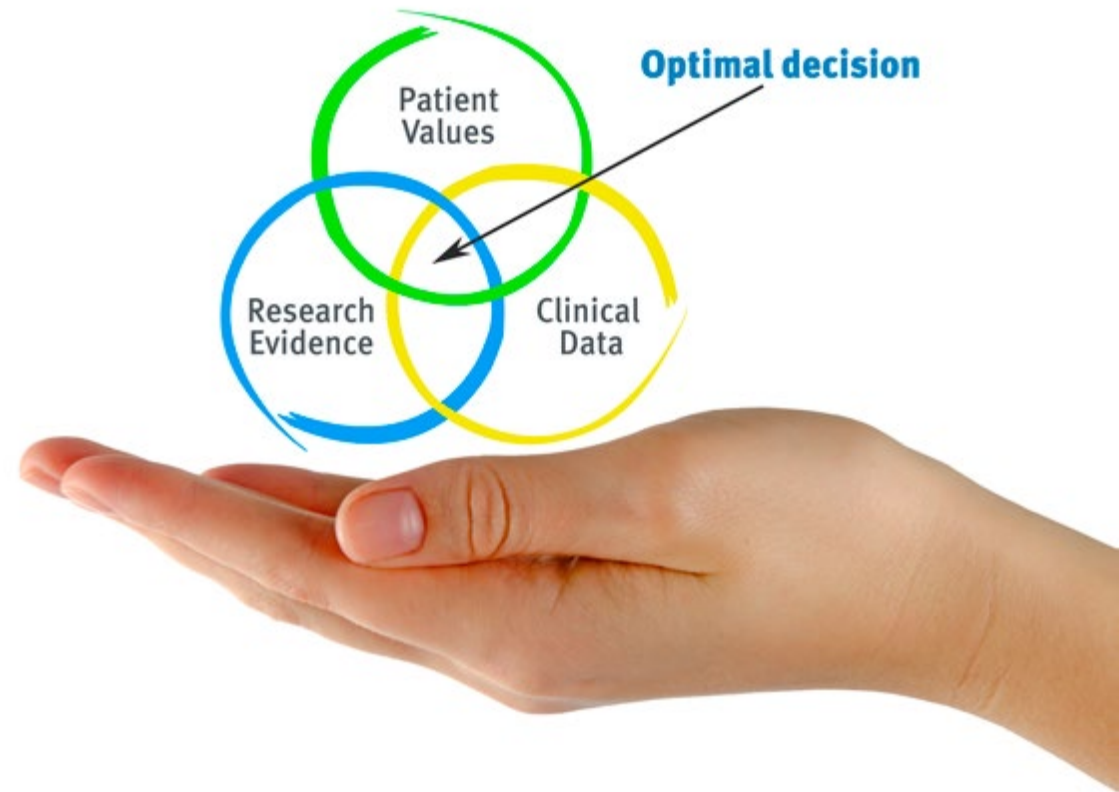
“

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"

At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology that is shaking the foundations of traditional universities around the world.



According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the real conditions in professional nursing practice.

“

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”

The effectiveness of the method is justified by four fundamental achievements:

1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



The nurse will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

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.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



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 really 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.



Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

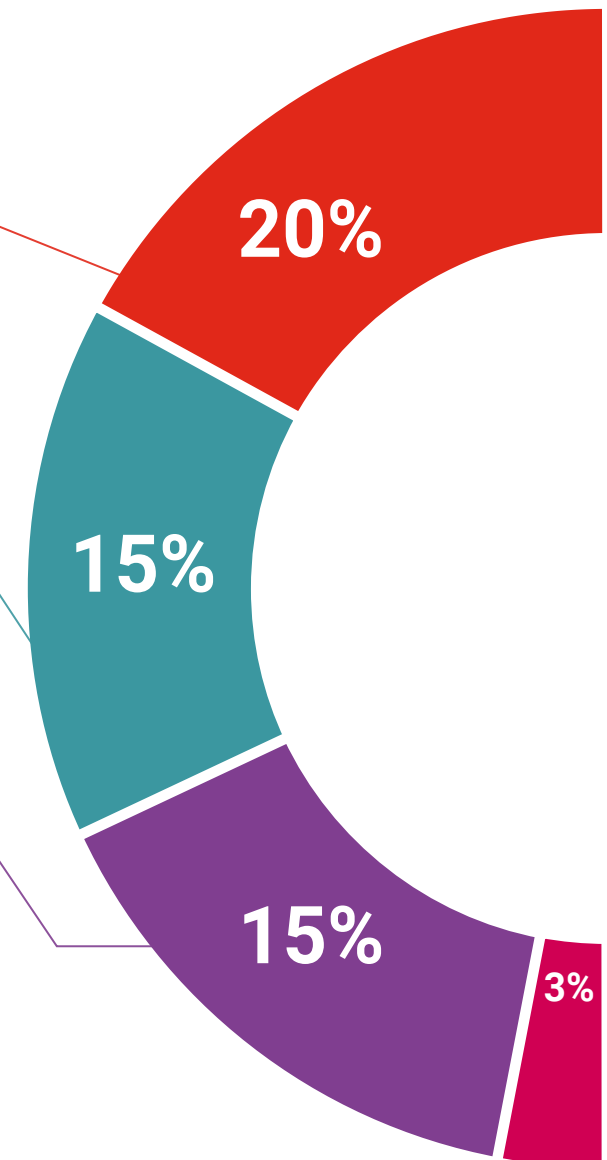
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

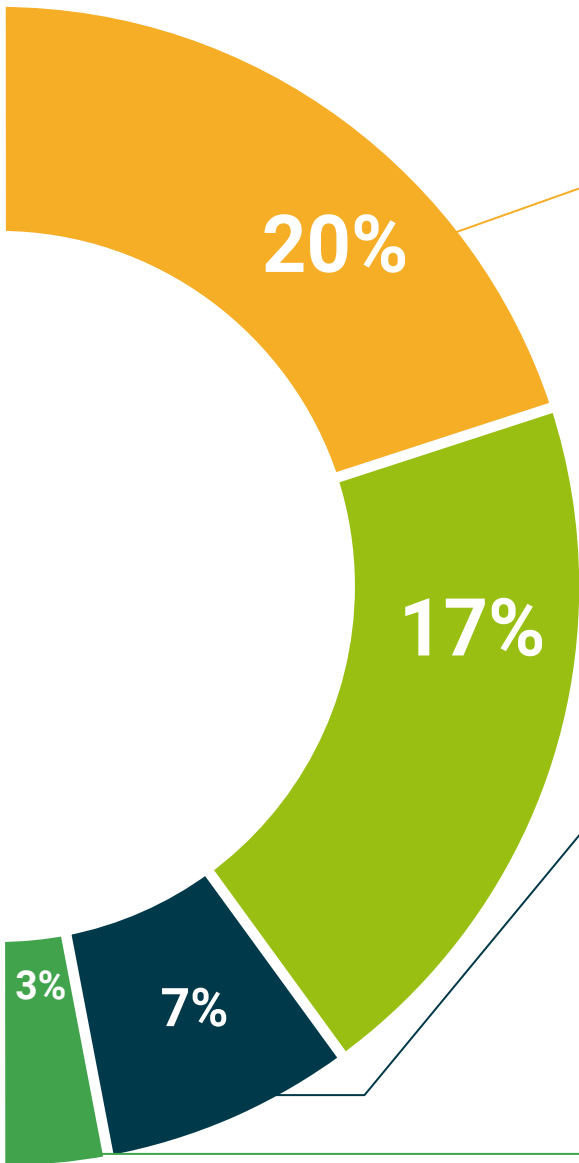
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



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.



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.



Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



06

Certificate

The Postgraduate Certificate in Gas-Related Toxicological Emergencies for Nursing 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 Gas-Related Toxicological Emergencies for Nursing** 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 Gas-Related Toxicological Emergencies for Nursing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development languages
virtual classroom



Postgraduate Certificate
Gas-Related Toxicological
Emergencies for Nursing

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

Postgraduate Certificate Gas-Related Toxicological Emergencies for Nursing