

Postgraduate Certificate

Toxicological Emergencies Related to Heavy Metals in Nursing



Postgraduate Certificate Toxicological Emergencies Related to Heavy Metals in 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/toxicological-emergencies-related-heavy-metals-nursing

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01

Introduction

Poisoning by heavy materials can cause serious health problems in humans, including organ damage, behavioral changes and impaired thinking and memory. Unlike a spider bite, the effects of these chemicals are not usually instantaneous, but build up in the system until it is too late. For this reason, having nurses who are specialized to identify and treat this type of problem in time is fundamental in our health system.



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*Update your knowledge
in a comfortable way and without
renouncing to the maximum
scientific rigor”*

There are different ways in which a person can be affected by the action of a heavy metal, such as in the environment, water, soil or atmosphere, usually in low doses. However, throughout history, there have been cases of severe poisoning due to occupational exposure, such as mining, which has triggered a severe poisoning problem. The accumulation of these substances over a long period of time can create certain pathologies that affect the life and health of people.

For all these reasons, the program designed for emergencies related to heavy materials for Nursing is an excellent opportunity to update knowledge in a field of action that is becoming more and more relevant worldwide. The agenda covers different aspects such as intoxication by lead, iron, phosphorus, among other materials, providing a broad vision of their diagnosis and treatment.

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 Toxicological Emergencies Related to Heavy Metals in Nursing** contains the most complete and up-to-date scientific program on 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
- ♦ Practical exercises where self-assessment can be used 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 research methodologies in Toxicology
- ♦ 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

“*This Postgraduate Certificate in Toxicological Emergencies Related to Heavy Metals will help you keep up to date in order to provide personalized care to your patients*”

“*Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice*”

Learn through case studies how to treat heavy material poisoning and position yourself as a high-level expert.

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

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.

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



02 Objectives

The main objective of the Postgraduate Certificate is the improvement of Nursing professionals in relation to Toxicological Emergencies Related to Heavy Metals, acquiring the most updated and new scientific knowledge. For this reason, and following a theoretical-practical learning process, the student will achieve a rigorous mastery in this field. Therefore, a series of general and specific objectives have been established for the greater satisfaction of the future student, being the following:



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*Advance your career as a nurse
by providing personalized care to patients
presenting with a toxicology emergency
involving heavy materials”*



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





Specific Objectives

- ◆ Identify the toxicokinetics of arsenic and its treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of lead and its treatment in case of acute poisoning
- ◆ Identify the toxicokinetics of iron and its treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of mercury and its treatment in case of acute poisoning
- ◆ Explain the toxicokinetics of cyanides and their treatment in case of acute poisoning

“

Get up to date with the latest developments in Heavy Metal Related Toxicological Emergencies and increase your capacity in the treatment of your patients”

03

Course Management

The program developed for this Postgraduate Certificate has been designed by a group of professionals who specialize in toxicological emergencies related to heavy metals in Nursing. In this way, they pour all their knowledge and experience to educate professionals who are better prepared to intervene with patients who present any condition related to exposure to toxic substances, improving their chances of recovery.



“

*Start your path to excellence
accompanied by an excellent
teaching staff”*

Management



Dr. Cesáreo Álvarez Rodríguez

- ♦ 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
- ♦ University Expert in Health Promotion
- ♦ Advanced Life Support Instructor (American Heart Association Accredited)

Professors

Dr. Guillermo Burillo-Putze

- ♦ Emergency Coordinator of the University Hospital Complex of the Canary Islands
- ♦ Degree in Medicine from the University of La Laguna Doctor of Medicine from the University of La Laguna. Extraordinary Doctorate Award
- ♦ Director of 5 Doctoral Theses
- ♦ Specialist in Family and Community Medicine
- ♦ Master's Degree in Emergency Medicine
- ♦ University Expert in Toxicology by the University of Sevilla
- ♦ 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. Angel Ascensiano Bajo Bajo

- ♦ 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 the Miguel Hernández University with 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. Patricia Giralde Martínez

- ♦ Prehospital Emergency Physician in the Galician 061 Health Emergency Service
- ♦ Professional experience in Hospital Emergency Medicine at Montecelo Hospital
- ♦ Degree 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
- ♦ Professor in the "Postgraduate Diploma in Emergencies and Emergencies" course at the School of Health Sciences of the Complutense University of Madrid

Dr. Iria Miguéns Blanco

- ♦ 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. Plácido Mayan Conesa

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

Dr. María Teresa Maza Vera

- ◆ 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. José María Rodríguez Domínguez

- ◆ 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. María del Mar Suárez Gago

- ◆ 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)

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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 Postgraduate Certificate in Toxicological Emergencies Related to Heavy Metals for Nursing has been designed by an excellent teaching group that, taking into account the current demands and requirements in this sector of medicine, has created a complete and updated syllabus to guarantee academic excellence. All this, from a global perspective for the sake of its application at an international level, incorporating all the fields of work involved in professional development in this type of work environment.





“Develop your skills with an updated program focused on your professional development”

Module 1. Industrial Poisoning by Heavy Metal

- 1.1. Introduction: General Aspects of Heavy Metals and their Main Chelating Agents
- 1.2. Iron Poisoning
 - 1.2.1. Definition, General Aspects
 - 1.2.2. Sources of Exposure
 - 1.2.3. Toxicokinetics and Mechanism of Action
 - 1.2.4. Clinical Manifestations
 - 1.2.5. Diagnosis
 - 1.2.6. Treatment
 - 1.2.7. Conclusions and Key Points
- 1.3. Phosphorus Poisoning
 - 1.3.1. Definition, General Aspects
 - 1.3.2. Sources of Exposure
 - 1.3.3. Toxicokinetics and Mechanism of Action
 - 1.3.4. Clinical Manifestations
 - 1.3.5. Diagnosis
 - 1.3.6. Treatment
 - 1.3.7. Conclusions and Key Points
- 1.4. Lead Poisoning
 - 1.4.1. Definition, General Aspects
 - 1.4.2. Sources of Exposure
 - 1.4.3. Toxicokinetics and Mechanism of Action
 - 1.4.4. Clinical Manifestations
 - 1.4.5. Diagnosis
 - 1.4.6. Treatment
 - 1.4.7. Conclusions and Key Points
- 1.5. Mercury Poisoning
 - 1.5.1. Definition, General Aspects
 - 1.5.2. Sources of Exposure
 - 1.5.3. Toxicokinetics and Mechanism of Action
 - 1.5.4. Clinical Manifestations
 - 1.5.5. Diagnosis
 - 1.5.6. Treatment
 - 1.5.7. Conclusions and Key Points





- 1.6. Arsenic Poisoning
 - 1.6.1. Definition, General Aspects
 - 1.6.2. Sources of Exposure
 - 1.6.3. Toxicokinetics and Mechanism of Action
 - 1.6.4. Clinical Manifestations
 - 1.6.5. Diagnosis
 - 1.6.6. Treatment
 - 1.6.7. Conclusions and Key Points
- 1.7. Cadmium Poisoning
 - 1.7.1. Definition, General Aspects
 - 1.7.2. Sources of Exposure
 - 1.7.3. Toxicokinetics and Mechanism of Action
 - 1.7.4. Clinical Manifestations
 - 1.7.5. Diagnosis
 - 1.7.6. Treatment
 - 1.7.7. Conclusions and Key Points

“A unique, key, and decisive educational experience to boost your professional development”

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.





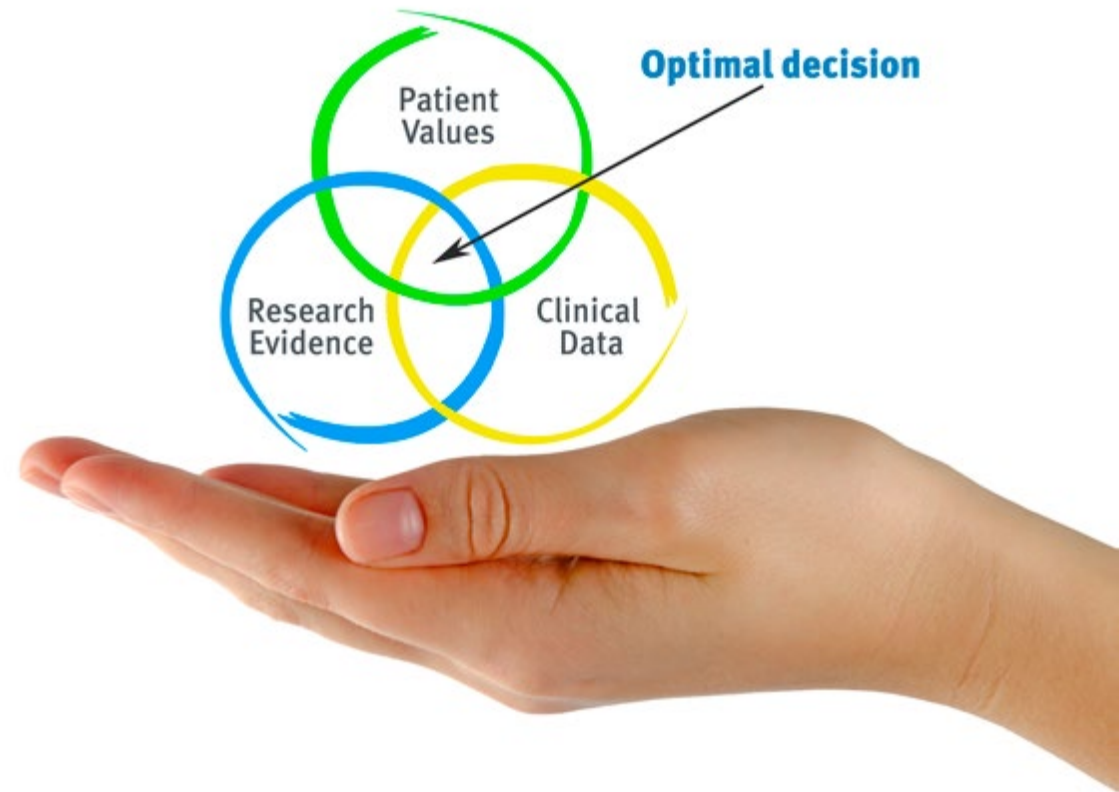
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Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

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. Gérvas, 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.

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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:

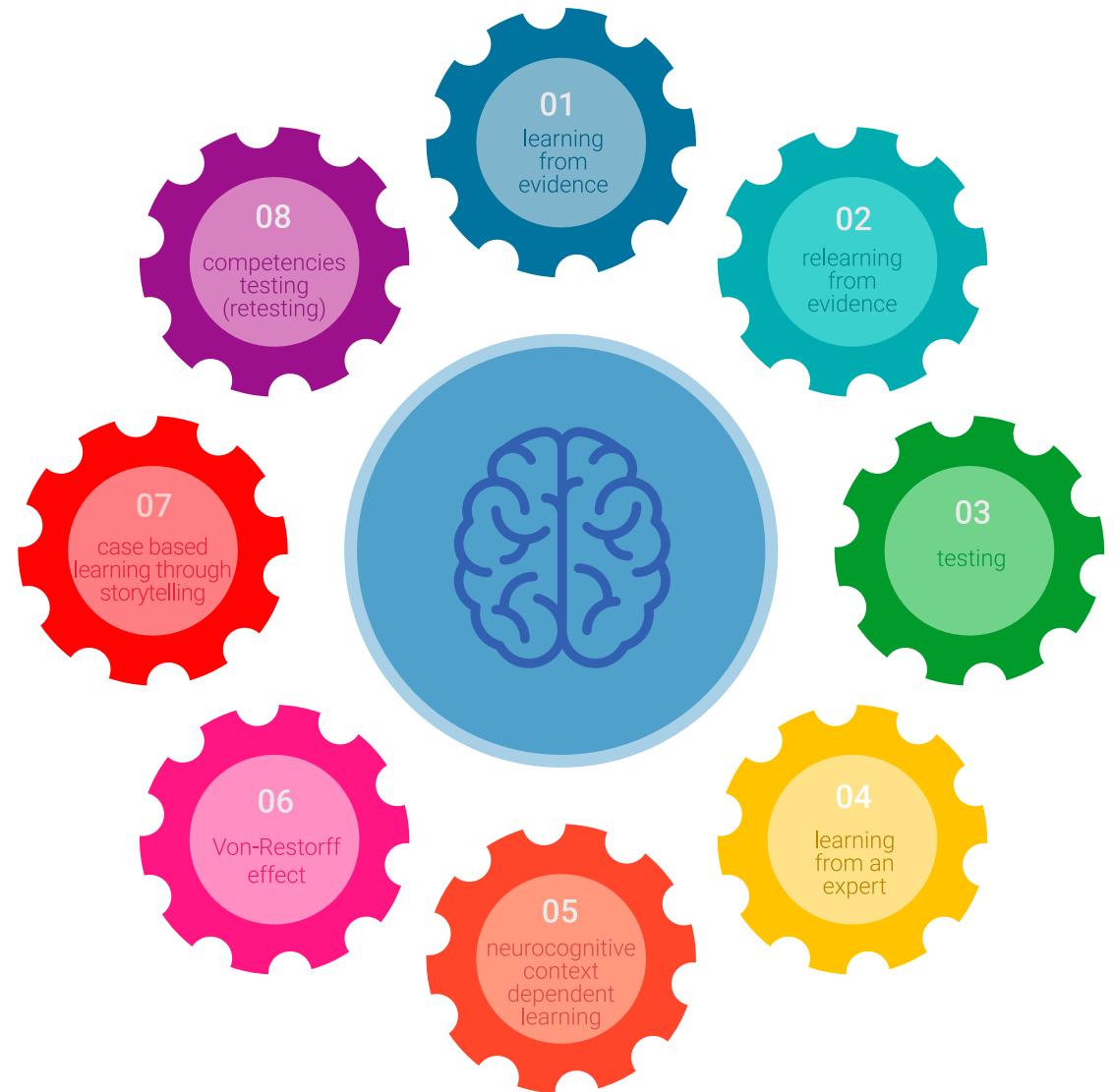
1. Nurses who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into 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

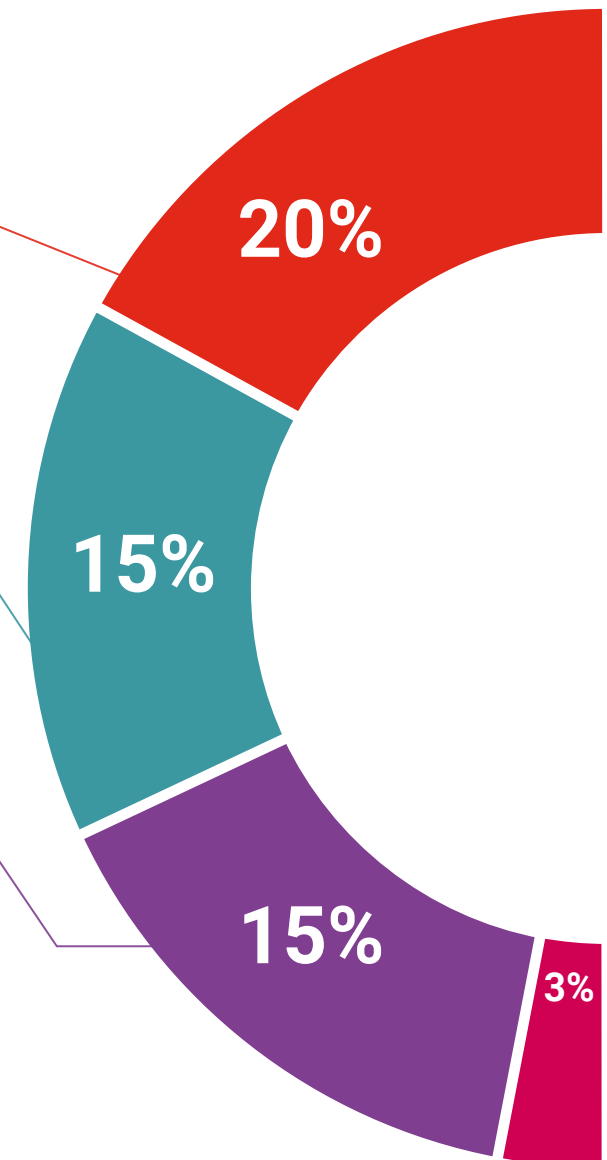
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

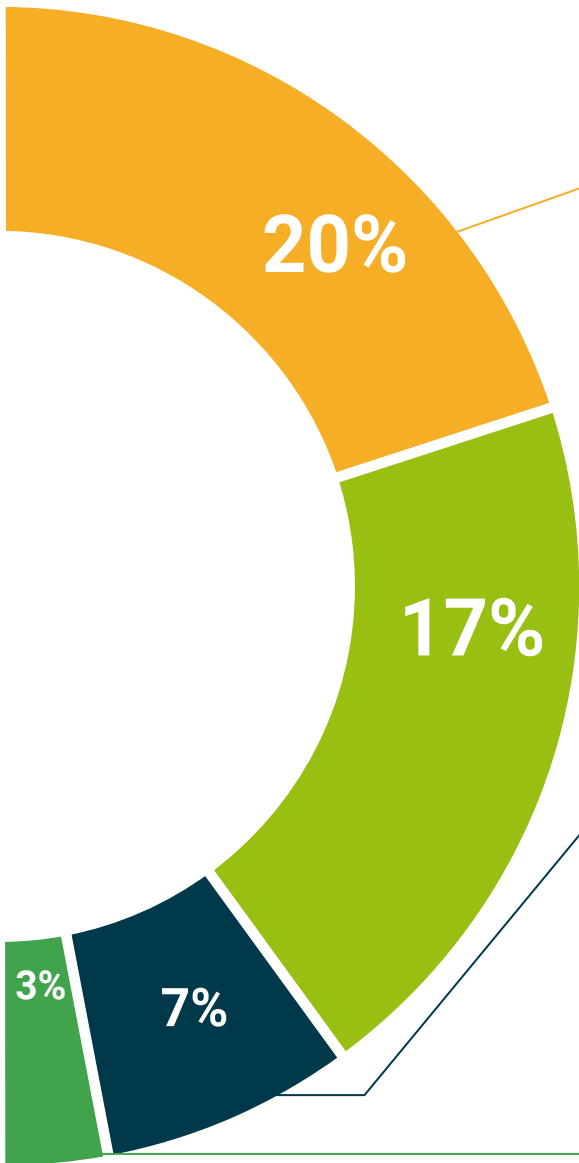
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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 Toxicological Emergencies Related to Heavy Metals in Nursing 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 Toxicological Emergencies Related to Heavy Metals in 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.

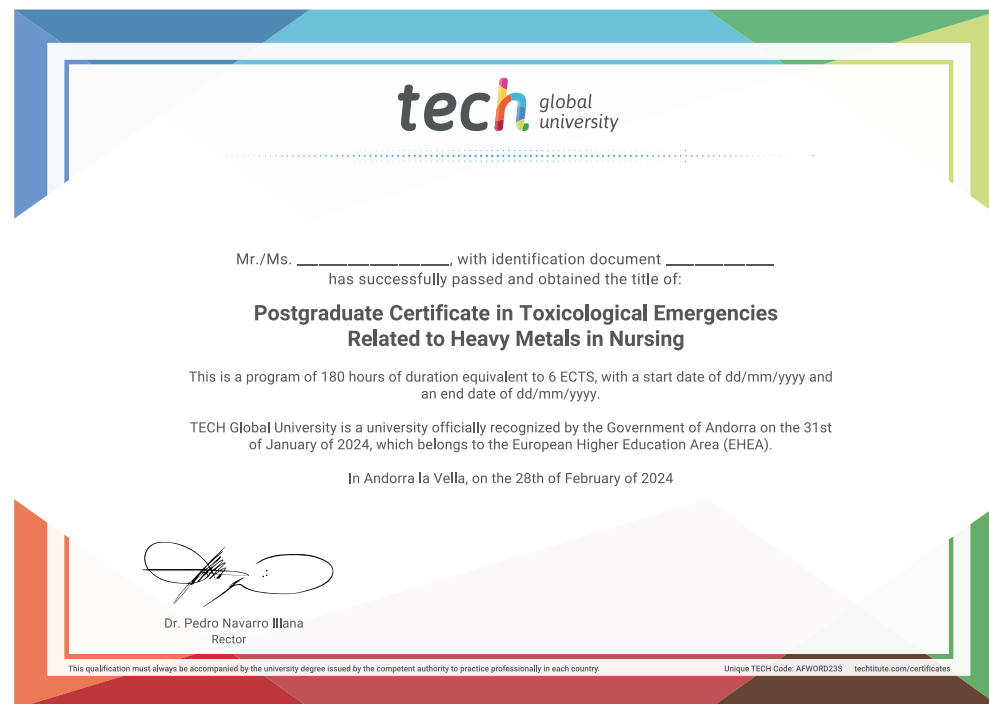
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Toxicological Emergencies Related to Heavy Metals in Nursing**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper diploma 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
personalized service innovation
knowledge present
development language
virtual classroom



Postgraduate Certificate Toxicological Emergencies Related to Heavy Metals in Nursing

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Postgraduate Certificate

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Related to Heavy Metals
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