

# Postgraduate Diploma

## Toxicologic Emergencies By Industrial Products for Nursing





## Postgraduate Diploma Toxicologic Emergencies By Industrial Products for Nursing

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 17 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-toxicologic-emergencies-industrial-products-nursing](http://www.techtute.com/us/nursing/postgraduate-diploma/postgraduate-diploma-toxicologic-emergencies-industrial-products-nursing)

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# 01

# Introduction

Poisoning by industrial products is summarized as a kind of consequence that derives from the technological development that has occurred in recent years. Many of the toxins from this industry are only dangerous in the workplace and, therefore, their study should be considered in the field of medicine and nursing, since only then can hospital staff be trained to identify a case in the Emergency room. Therefore, this program is focused on this field and will help students adequately prepare to improve their professional work.



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*Learn about the latest advances in Toxicological Emergencies by Industrial Products to be able to identify the toxicokinetics of antiseptics, disinfectants and sterilants and their treatment in case of acute poisoning”*

Nearly two million people around the world suffer from some type of poisoning. At the workplace level, many of these substances are due to the change that the industry of all types has made in recent years. In this way, constantly exposing yourself to them can cause problems in the body. Although this risk is almost always controlled, sometimes accidents occur, so it is normal for a patient to present in the emergency room with toxicological symptoms due to industrial products.

Therefore, rapid and effective action is essential to counteract the symptoms quickly. Therefore, having trained personnel trained in the detection of the basic and general principles of patients with severe poisoning.

With this program focused specifically on this topic, students will be provided with the necessary knowledge to successfully address the professional challenge of caring for patients with poisoning from industrial products. The program is fundamentally aimed at the daily exercise of the profession, allowing the identification of the toxicokinetics of antimalarials and antiparasitics and their treatment in case of acute poisoning.

The contents of this Postgraduate Diploma are structured in large groups of topics with pedagogical coherence. In this way, the student will be able to understand the appropriate way to carry out an evaluation of an intoxicated patient, explaining the different alterations due to lead poisoning or smoke inhalation.

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 Diploma in Toxicological Emergencies by Industrial Products for Nursing** contains the Scientific most complete and updated 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 of which they are composed 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
- ♦ Clinical iconography and diagnostic imaging tests
- ♦ 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



*This Diploma in Toxicological Emergencies by Industrial Products will help you Explain the toxicokinetics of fluorine and hydrofluoric acid and its treatment in case of acute poisoning"*



“

*Seize the opportunity to Explain the toxicokinetics of asphyxiants and pulmonary irritants and their treatment in case of acute poisoning”*

*Complete a program carried out by experts in this sector and position yourself as a high-level professional.*

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

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

With a clear objective, the student will be able to satisfy their professional needs and improve in their daily work. In this way, the program of this Postgraduate Diploma focuses on carrying out an accurate approach to a patient poisoned by industrial products. In this way, and following theoretical-practical learning, the toxicokinetics of methanol, ethylene glycol and other toxic alcohols and their treatment in case of acute poisoning will be addressed. After completing the training, the nurse will be fully trained to intervene in these cases with greater guarantees of success.







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*This Diploma will allow you to specialize in the toxicokinetics of cyanides and their treatment in case of acute poisoning"*



## General Objectives

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- ♦ 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

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### Module 1. Specialization in Toxicology

- ◆ Explain the proper way to assess the acutely poisoned patient
- ◆ Explain the process of applying life support in the acutely poisoned patient
- ◆ Apply preventive techniques for gastrointestinal absorption
- ◆ Explain the alterations of the water and electrolyte balance in the acutely poisoned patient
- ◆ Describe toxicokinetics and its implication for emergency treatment

### Module 2. Assessment of the Poisoned Patient

- ◆ Explain the decontamination procedures in acute dermal intoxication
- ◆ Define the toxicity mechanisms in the male genitourinary tract
- ◆ Define the toxicity mechanisms in the female genitourinary tract
- ◆ Explain the effects of xenobiotics
- ◆ Describe the ECG alterations in poisonings that produce cardiac involvement
- ◆ Describe the possible arrhythmias to be detected in acute poisonings
- ◆ Explain the hematological involvement that occurs in acute poisonings
- ◆ Describe the organic repercussions of toxicology in athletes and the different products used
- ◆ Identify poisoning related to possible pharmacological errors in the pediatric patient
- ◆ Describe the action to be taken in case of overdose in pregnant women



### Module 3. Industrial Poisoning from Gases

- ♦ Explain the toxicokinetics of fluorine and hydrofluoride and their treatment in case of acute poisoning
- ♦ Identify the toxicokinetics of selective  $\beta$ 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  $\beta$ -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

### Module 4. Industrial Poisoning from Gases

- ♦ Identify the toxicokinetics of petroleum derivatives and their treatment in case of acute poisoning
- ♦ Explain the toxicokinetics of asphyxiants and pulmonary irritants and their treatment in case of acute poisoning
- ♦ Identify the toxicokinetics of antiseptics, disinfectants and sterilants and their treatment in case of acute poisoning
- ♦ Explain the toxicokinetics of methanol, ethylene glycol and other toxic alcohols and



their treatment in case of acute poisoning

#### **Module 5. Industrial Poisoning by Heavy Metals**

- ◆ 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

“ Take a step towards excellence and identify intoxication related to possible pharmacological errors in pediatric patients”





03

# Course Management

At TECH we have an excellent teaching staff, who have joined this Postgraduate Diploma to guarantee the qualification of future graduates. Thanks to their dense experience, the student will have the best of theory and practice, being able to learn everything they needs to effectively treat patients poisoned by industrial products. Consequently, they will have the certainty and confidence of receiving the most complete and effective knowledge on the market, being able to put it into practice in their professional environment.





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*Improve your professional profile with the endorsement of a group of experts dedicated to Toxicological Emergencies by Industrial Products for Nursing”*

## 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 and content of this Postgraduate Diploma has been designed to suit the student, allowing them to take them in a 100% online modality. For this reason, the student has a complete and well-structured syllabus that will help them apply their knowledge in their daily work when treating emergency patients who have poisoning from industrial products. 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.







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*With this program you will be able to identify the symptoms of poisoning related to possible pharmacological errors in pediatric patients”*

## Module 1. Specialization in Toxicology

- 1.1. Specialization in Medical Toxicology
  - 1.1.1. Justification for Specialization in Medical Toxicology
  - 1.1.2. Objectives
  - 1.1.3. Methods
- 1.2. Basic Concepts of Toxicology
  - 1.2.1. Concepts of Toxicology, Poisoning, Toxicants and Toxicity
  - 1.2.2. Clinical Toxicology
    - 1.2.2.1. Types of Toxicity
    - 1.2.2.2. Types of poisoning
    - 1.2.2.3. Dose-Response
    - 1.2.2.4. Causes of Poisoning
    - 1.2.2.5. Toxicity Mechanisms
      - 1.2.2.5.1. Toxicokinetics
      - 1.2.2.5.2. Toxicodynamics
- 1.3. Toxicology in its Historical Context
  - 1.3.1. The Use of Poisons in the Bronze Age
  - 1.3.2. Poisoning in Ancient Times
  - 1.3.3. The Middle Ages
  - 1.3.4. The Modern Age
  - 1.3.5. Contemporary Era
- 1.4. Chemistry as a Weapon: The History of Criminal Toxicology
- 1.5. Radiation as a Crime

## Module 2. Assessment of the Poisoned Patient

- 2.1. Introduction to the Module
  - 2.1.1. Medical History
    - 2.1.1.1. Anamnesis
    - 2.1.1.2. Physical Examination
    - 2.1.1.3. Complementary Evaluations
  - 2.1.2. Toxic Syndromes
    - 2.1.2.1. Sympathomimetics
    - 2.1.2.2. Cholinergic Drugs
    - 2.1.2.3. Anticholinergics
    - 2.1.2.4. Serotonergic Drugs
    - 2.1.2.5. Opioids
    - 2.1.2.6. Sedative-Hypnotic Drugs
    - 2.1.2.7. Hallucinatory Drugs
  - 2.1.3. Metabolic Acidosis in Toxicology
  - 2.1.4. Diagnosis of Suspected Poisoning and Diagnostic Hypotheses
  - 2.1.5. Conclusions and Key Points
- 2.2. Initial Assessment of Patients Suffering from Poisoning
  - 2.2.1. Preliminary
    - 2.2.1.1. Introduction
    - 2.2.1.2. Index
    - 2.2.1.3. Objectives
  - 2.2.2. Hepatic Toxicology
  - 2.2.3. Renal Toxicology
  - 2.2.4. Hematologic Toxicity
  - 2.2.5. Neurological and Psychiatric Toxicology
  - 2.2.6. Conclusions and Key Points
  - 2.2.7. Cardiovascular and Respiratory Toxicology

- 2.3. Toxic Organ Involvement
  - 2.3.1. Preliminary
    - 2.3.1.1. Introduction
    - 2.3.1.2. Index
    - 2.3.1.3. Objectives
  - 2.3.2. Reproductive and Perinatal Toxicology
  - 2.3.3. Neonatal and Pediatric Toxicology
  - 2.3.4. Geriatric Toxicology
- 2.4. Group Toxicology

### Module 3. Industrial Poisoning from Gases

- 3.1. Effect of Different Types of Gases on the Respiratory System
- 3.2. Poisoning due to Inhalation of Fumes
  - 3.2.1. Preliminary
    - 3.2.1.1. Introduction
    - 3.2.1.2. Index
    - 3.2.1.3. Objective
  - 3.2.2. Mechanisms of Toxicity Production and Airway Damage
  - 3.2.3. Clinical Manifestations
  - 3.2.4. Medical History, Examination and Suspected Diagnosis
  - 3.2.5. Treatment Management
  - 3.2.6. Conclusions and Key Points
- 3.3. Irritant Gas Poisoning
  - 3.3.1. Preliminary
    - 3.3.1.1. Introduction
    - 3.3.1.2. Index
    - 3.3.1.3. Objective
  - 3.3.2. Hydrogen Sulfide Poisoning
    - 3.3.2.1. Sources of Exposure
    - 3.3.2.2. Toxicokinetics and Pathophysiology
    - 3.3.2.3. Clinical Manifestations and Diagnosis
    - 3.3.2.4. Treatment

- 3.3.3. Fluorine Derivative Poisoning
  - 3.3.3.1. Sources of Exposure
  - 3.3.3.2. Pathophysiology
  - 3.3.3.3. Clinical Manifestations
  - 3.3.3.4. Diagnosis and Treatment
- 3.3.4. Chlorine Derivative Poisoning
  - 3.3.4.1. General Aspects of Poisoning
- 3.3.5. Nitrogen Derivative Poisoning
  - 3.3.5.1. Ammonia Poisoning
  - 3.3.5.2. Other Poisonings
- 3.4. Poisoning by Asphyxiating Fumes: Carbon Monoxide
  - 3.4.1. Preliminary
    - 3.4.1.1. Introduction
    - 3.4.1.2. Index
    - 3.4.1.3. Objective
  - 3.4.2. Definition and Causes of Carbon Monoxide Hazards
  - 3.4.3. Epidemiology of Carbon Monoxide Poisoning: A Known and a Hidden Epidemiology
  - 3.4.4. Sources of Carbon Monoxide Exposure and Medical and Legal Causes of Poisoning
  - 3.4.5. Pathophysiology of Carbon Monoxide Poisoning
  - 3.4.6. Clinical Manifestations
  - 3.4.7. Diagnosis of Suspicion and Diagnostic Confirmation. Pulse Oximetry in the Prehospital Setting
  - 3.4.8. Poisoning Severity Criteria
  - 3.4.9. Treatment of Poisoning
  - 3.4.10. Observation, Admission and Discharge Criteria
  - 3.4.11. Conclusions and Key Points
- 3.5. Chemical Asphyxia: Cyanide
  - 3.5.1. Preliminary
    - 3.5.1.1. Introduction.
    - 3.5.1.2. Index
    - 3.5.1.3. Objective

- 3.5.2. Sources of Exposure.
- 3.5.3. Toxicokinetics and Pathophysiology.
- 3.5.4. Clinical Manifestations, Suspicion and Confirmation Diagnosis.
- 3.5.5. Treatment.
- 3.5.6. Conclusions and Key Points.

## Module 4. Industrial Poisoning by Solvents

- 4.1. Introduction to the Module.
- 4.2. Hydrocarbon Poisoning
  - 4.2.1. Preliminary
    - 4.2.1.1. Introduction.
    - 4.2.1.2. Index
    - 4.2.1.3. Objective
  - 4.2.2. Aliphatic or Linear.
    - 4.2.2.1. Short Chain Hydrocarbons: Butane, Propane, Ethane and Methane.
    - 4.2.2.2. Long-Chain Hydrocarbons: Pentanes, Hexanes, Heptanes and Octanes.
    - 4.2.2.3. Petroleum Distillates: Gasoline, Kerosene, and Others.
    - 4.2.2.4. Halogenated Products
    - 4.2.2.5. Carbon Tetrachloride
    - 4.2.2.6. Chloroform
    - 4.2.2.7. Dichloromethane
    - 4.2.2.8. Trichloroethylene
    - 4.2.2.9. Tetrachloroethylene
    - 4.2.2.10. Trichloroethane
  - 4.2.3. Aromatic or Cyclic.
    - 4.2.3.1. Benzene
    - 4.2.3.2. Toluene
    - 4.2.3.3. Conclusions and Key Points.
- 4.3. Aliphatic Alcohols Poisoning.
  - 4.3.1. Preliminary
    - 4.3.1.1. Introduction.
    - 4.3.1.2. Index
    - 4.3.1.3. Objective
  - 4.3.2. Methyl Alcohol
  - 4.3.3. Isopropyl Alcohol
  - 4.3.4. Conclusions and Key Points.
- 4.4. Glycol Poisoning
  - 4.4.1. Preliminary
    - 4.4.1.1. Introduction.
    - 4.4.1.2. Index
    - 4.4.1.3. Objective
  - 4.4.2. Ethylene Glycol
  - 4.4.3. Diethylene Glycol
  - 4.4.4. Propylene Glycol
  - 4.4.5. Conclusions and Key Points.
- 4.5. Nitrogen Derivative Poisoning.
  - 4.5.1. Preliminary
    - 4.5.1.1. Introduction.
    - 4.5.1.2. Index
    - 4.5.1.3. Objective
  - 4.5.2. Aniline
  - 4.5.3. Toluidine
  - 4.5.4. Nitrobenzene
  - 4.5.5. Conclusions and Key Points.
- 4.6. Acetone Poisoning
  - 4.6.1. Preliminary
    - 4.6.1.1. Introduction.
    - 4.6.1.2. Index
    - 4.6.1.3. Objective
  - 4.6.2. Conclusions and Key Points.

**Module 5. Industrial Poisoning by Heavy Metals**

- 5.1. Introduction: General Aspects of Heavy Metals and their Main Chelating Agents.
- 5.2. Iron Poisoning
  - 5.2.1. Definition, General Aspects.
  - 5.2.2. Sources of Exposure.
  - 5.2.3. Toxicokinetics and Mechanism of Action.
  - 5.2.4. Clinical Manifestations
  - 5.2.5. Diagnosis.
  - 5.2.6. Treatment
  - 5.2.7. Conclusions and Key Points.
- 5.3. Phosphorus Poisoning
  - 5.3.1. Definition, General Aspects.
  - 5.3.2. Sources of Exposure.
  - 5.3.3. Toxicokinetics and Mechanism of Action.
  - 5.3.4. Clinical Manifestations
  - 5.3.5. Diagnosis.
  - 5.3.6. Treatment
  - 5.3.7. Conclusions and Key Points.
- 5.4. Lead Poisoning
  - 5.4.1. Definition, General Aspects.
  - 5.4.2. Sources of Exposure.
  - 5.4.3. Toxicokinetics and Mechanism of Action.
  - 5.4.4. Clinical Manifestations
  - 5.4.5. Diagnosis.
  - 5.4.6. Treatment.
  - 5.4.7. Conclusions and Key Points.
- 5.5. Mercury Poisoning
  - 5.5.1. Definition, General Aspects.
  - 5.5.2. Sources of Exposure.
  - 5.5.3. Toxicokinetics and Mechanism of Action.
  - 5.5.4. Clinical Manifestations
  - 5.5.5. Diagnosis.
  - 5.5.6. Treatment.
  - 5.5.7. Conclusions and Key Points.

- 5.6. Arsenic Poisoning
  - 5.6.1. Definition, General Aspects.
  - 5.6.2. Sources of Exposure.
  - 5.6.3. Toxicokinetics and Mechanism of Action.
  - 5.6.4. Clinical Manifestations
  - 5.6.5. Diagnosis.
  - 5.6.6. Treatment.
  - 5.6.7. Conclusions and Key Points.
- 5.7. Cadmium Poisoning
  - 5.7.1. Definition, General Aspects.
  - 5.7.2. Sources of Exposure.
  - 5.7.3. Toxicokinetics and Mechanism of Action.
  - 5.7.4. Clinical Manifestations
  - 5.7.5. Diagnosis.
  - 5.7.6. Treatment.
  - 5.7.7. Conclusions and Key Points.



*Be part of a unique experience and enhance your professional profile within the field of nursing no matter where in the world you are”*

# 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 Diploma in Toxicological Emergencies by Industrial Products for Nursing guarantees, in addition to the most rigorous and updated training, 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 program will allow you to obtain your **Postgraduate Diploma in Toxicological Emergencies by Industrial Products 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 Diploma in Toxicological Emergencies by Industrial Products for Nursing**

Modality: **online**

Duration: **6 months**

Credits: **17 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

**tech** global  
university

personalized service innovation

knowledge present

online training

development languages

virtual classroom

**Postgraduate Diploma**  
Toxicologic Emergencies  
By Industrial Products  
for Nursing

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 17 ECTS
- » Schedule: at your own pace
- » Exams: online



# Postgraduate Diploma

## Toxicologic Emergencies By Industrial Products for Nursing

