

# Postgraduate Certificate

## Drug-Related Toxicologic Emergencies





## Postgraduate Certificate Drug-Related Toxicologic Emergencies

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 4 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-certificate/drug-related-toxicologic-emergencies](http://www.techtute.com/us/medicine/postgraduate-certificate/drug-related-toxicologic-emergencies)

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01

# Introduction

Excessive or inadequate consumption of medications can lead to intoxication, which can trigger irreversible effects such as death, in certain cases, so it is essential to treat it in a timely and effective manner. With the evolution of science and technology, new formulas are emerging, so the specialist must be up to date with the latest scientific evidence and check the adverse effects of each substance. In this sense, this academic program seeks to update the specialist in terms of Drug-related Emergencies with the experience of the most knowledgeable teachers and the best content. A 100% online program that will allow you to combine your current schedule with this new goal.



A close-up photograph of a glass bottle tilted to the left, pouring a thick, red liquid into a beaker. The liquid is captured in mid-pour, creating a smooth, continuous stream. The background is a gradient of dark blue and black, with a diagonal white line separating it from a solid blue area on the right. The overall aesthetic is clean and professional, typical of a technical or scientific presentation.

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*Get up to date with the protocols to be followed in cases of Toxicological Emergencies related to Drugs, with this program of high academic level"*

Unfortunately, drug poisoning is a frequent public health problem. In certain regions, it is the main reason for intoxication consultations in emergency services. For this reason, keeping up to date on the subject is essential for the specialist in this area.

In that sense, this Postgraduate Certificate will provide you with an update on diagnostic methods, concrete clinical cases and the most advanced antidotes in the cases presented. The graduate will be able to master the toxicokinetics of SSRI and other atypical antidepressants, sedative hypnotics and barbiturates, benzodiazepines and muscle relaxants and therapeutic approach.

He will also be able to manage the toxicokinetics of local and general anesthetics, antipsychotics, lithium and specifically understand phytotherapeutic and vitamin intoxications. A compendium of specialized content on the subject that will allow you to successfully perform in the area of emergency or primary care.

Thanks to the comfortable study methodology of Relearning, implemented by TECH, the student will accomplish the goal from the comfort of his favorite place because it is 100% online and without complications. From the online platform, 24 hours a day, you will be able to consult or download the study material and all the necessary resources to advance personally and professionally.

This **Postgraduate Certificate in Drug-Related Toxicological Emergencies** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Toxicology in the Emergency Room
- ♦ 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.
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*You will be an expert in detecting the clinical manifestations of those patients who attend consultation for drug intoxication"*

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*A new way of learning is possible with TECH. You can freely combine this 100% online Postgraduate Certificate with your current agenda, without any inconvenience”*

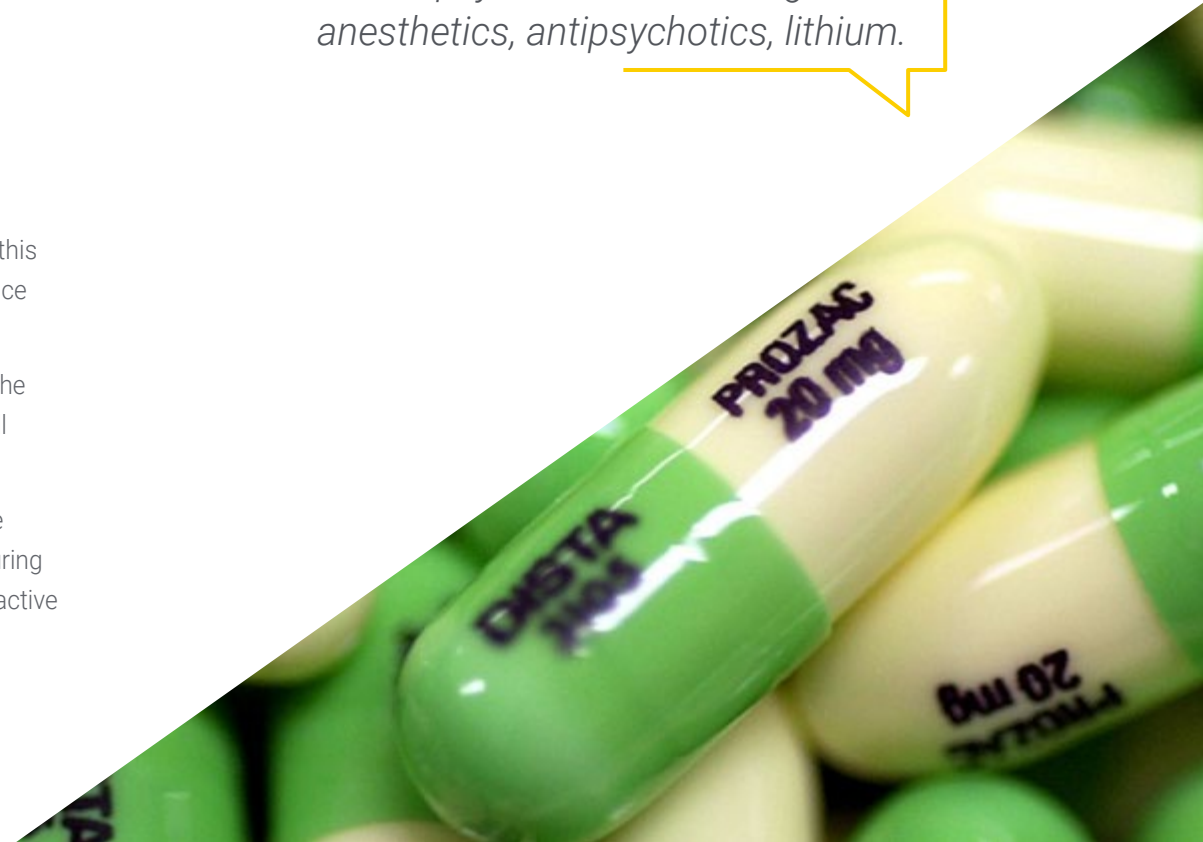
The program includes, in its teaching staff professionals from the sector who pour into this training the experience of their work, in addition , to recognized specialists from reference societies and prestigious universities.

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.

The design of this program focuses on Problem-Based Learning, by means of which 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 experts.

*You will master phytotherapeutic and vitamin intoxications.*

*You will deepen in the toxicokinetics of local and general anesthetics, antipsychotics local and general anesthetics, antipsychotics, lithium.*



02

# Objectives

This Postgraduate Certificate in Drug-Related Toxicologic Emergencies has been designed by leading experts in the field of Toxicology, who have developed a series of specific and general objectives so that the graduate can meet the academic goal quickly and efficiently. Upon completion in just 6 weeks, you will have new competencies and skills for the management of drug intoxicated patients.







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*You will be able to manage the toxicokinetics of SSRI and other atypical antidepressants, sedative hypnotics and barbiturates, benzodiazepines and muscle relaxants and therapeutic approach, after studying this program”*



## 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
- ♦ Put in place mechanisms to protect the severely poisoned patient and those around him/her
- ♦ 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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- Manage the toxicokinetics of SSRI and other atypical antidepressants, sedative hypnotics and barbiturates, benzodiazepines and muscle relaxants and therapeutic approach
- Know the toxicokinetics of local and general anesthetics, antipsychotics and lithium
- Mastering phytotherapeutic and vitamin intoxications

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*Enjoy the highest quality academic course 100% online and from the hand of the most expert teachers”*

03

# Course Management

The most specialized faculty is in this academic program. Specialized specialists in the area of Toxicology have composed an academic itinerary in accordance with the demands of today's world and the latest scientific evidence, who provide the best study contents from their own experience and research. Thus, the graduate will have an invaluable source of consultation for cases of patients with drug intoxication.



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*The most experienced specialists have prepared the best content for your update. Don't let it pass you by and enroll!”*

## International Guest Director

Dr. Alan Wu is a true international eminence in the field of Toxicology and Clinical Chemistry. His research has earned him numerous awards and, specifically, he has been recognized as one of the 10 most important people in the world of In Vitro Diagnostic technology (IVD Industry). He also holds the Seligson-Golden Award and has received an award for Outstanding Contributions from the American Association of Clinical Chemistry. He has also been nominated for the Charles C. Shepard Award for Science, Laboratory and Methods (CDC/ATSDR).

This outstanding expert has been closely linked to the Laboratory of Toxicology and Clinical Chemistry of the San Francisco General Hospital, United States, where he has been its director. In this renowned institution he has developed some of his most important studies, among them, his approaches to cardiac biomarkers and point-of-care testing. In addition, he is responsible for the supervision of the staff, the approval of all tests and instruments used in this center and for ensuring compliance with the standards established by the regulatory agencies.

Dr. Wu also maintains a continuous commitment to the dissemination of scientific discoveries and contributions derived from his research. He has authored more than 500 peer-reviewed articles published in leading journals. He has also written 8 pocket books consisting of short stories designed to promote the value of the clinical laboratory to the general public.

As for his academic background, he received his PhD in Analytical Chemistry and completed a postdoctoral fellowship in Clinical Chemistry at Hartford Hospital. He is also certified by the American Board of Clinical Chemistry and is listed as a State Advisor on environmental biomonitoring and chemical-biological terrorism.



## Dr. Wu, Alan

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- ♦ Director of Toxicology and Clinical Chemistry, San Francisco General Hospital, United States
- ♦ Head of the Clinical Pharmacogenomics Laboratory at the University of California San Francisco (UCSF)
- ♦ Professor of Laboratory Medicine at UCSF
- ♦ Director of the Neonatal Screening Program at the Department of Public Health in Richmond
- ♦ Former Director of Clinical Pathology in the Department of Pathology and Laboratory Medicine at Hartford Hospital
- ♦ Medical Advisor to the California State Poison Control Center
- ♦ State Advisor to the Environmental Biomonitoring Committee and the Terrorism Preparedness Committee
- ♦ Advisor to the Clinical Laboratory Standards Institute, Subcommittee on Establishment of Molecular Methods in Clinical Laboratory Settings
- ♦ Editor-in-Chief of the journal *Frontiers in Laboratory Medicine*
- ♦ Bachelor of Science in Chemistry and Biology from Purdue University
- ♦ Ph.D. in Analytical Chemistry from the University of Illinois
- ♦ Postdoctoral Fellow in Clinical Chemistry at Hartford Hospital
- ♦ Member of:
  - ♦ American Association for Clinical Chemistry
  - ♦ International Warfarin Pharmacogenetics Group Warfarin Consortium
  - ♦ International Tamoxifen Pharmacogenetics Consortium
  - ♦ College of American Pathologists, Division of Toxicology Resources



*Thanks to TECH, you will be able to learn with the best professionals in the world"*

## Management



### Dr. Cesáreo Álvarez Rodríguez

- ♦ Emergency Physician and Head of the Emergency Unit of the Hospital de Verín.
- ♦ Chairman of the Research and Teaching, Ethics and Medical Records Committee. Hospital Verín
- ♦ 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)
- ♦ Director of Doctoral Thesis in the area of Clinical Toxicology (Extraordinary Award)
- ♦ Resident Intern. Virgen de la Concha General Hospital of Zamora
- ♦ Area Specialist in Emergency Medicine. Virgen de la Concha General Hospital of Zamora
- ♦ Resident Intern. University of Oviedo Professional School of Sports Medicine
- ♦ Primary Care Doctor.. SERGAS
- ♦ PhD in Medicine and Surgery from the Autonomous University of Madrid.
- ♦ Degree in Medicine and Surgery from the University of Santiago de Compostela with a Bachelor's Degree in Medicine and Surgery.
- ♦ Physical Education and Sports Medicine. University of Oviedo Professional School of Sports Medicine
- ♦ Research Sufficiency by the University of Salamanca
- ♦ Specialist in Family and Community Medicine
- ♦ University Expert in Health Promotion
- ♦ Advanced Life Support Instructor (American Heart Association Accredited)
- ♦ Member of the Editorial Board of the journal "Emergencias"



## Professors

### Dr. Patricia Giralde Martínez

- ♦ Prehospital Emergency Physician in the Galician 061 Health Emergency Service
- ♦ Hospital Emergency Physician at the of Valencia.
- ♦ Postgraduate University Professor in the course "University Expert in Urgencies and Emergencies" of the School of Health Sciences of the Complutense University of Madrid.
- ♦ General Vice-Secretary of the Galician Society of Emergency Medicine (SEMES Galicia).
- ♦ Member of Scientific Committee of the XXI Conference on Glycinic Toxicology and XI Conference on Toxicovigilance
- ♦ 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

### Dr. Iria Miguéns Blanco

- ♦ Doctor at the Emergency Department of the Gregorio Marañón General University Hospital
- ♦ Specialist Prehospital Emergency Medicine in the Emergency Service of the Community of Madrid-SUMMA.
- ♦ Specialist in Family and Community Medicine
- ♦ Degree in Medicine and Surgery from University of Santiago de Compostela
- ♦ Master's Degree in Emergency Medicine from the Complutense University of Madrid.
- ♦ Master's Degree in Teaching and Digital Competencies in Health Sciences by University CEU Cardenal Herrera
- ♦ Master's Degree in Health Law and Bioethics by Universidad de Castilla-La Mancha
- ♦ SEMES national board member and SEMES Women's Director

### Dr. Guillermo Burillo Putze

- ♦ Specialist in Family and Community Medicine
- ♦ Researcher at the Department of Physical and Pharmacological Medicine of the University of La Laguna.
- ♦ Emergency Service at the of the University Hospital Complex of the Canary Islands
- ♦ Doctor in Medicine and Surgery from the University of La Laguna.
- ♦ University Expert in Toxicology by the University of Sevilla
- ♦ Postgraduate Certificate in Advanced Life Support Instructor Course from the Washington School of Clinical Toxicology, USA.
- ♦ Member of the European Registry of Toxicologists and the Spanish Association of Toxicology.

### Dr. Angel Ascensiano Bajo Bajo

- ♦ Hospital Emergency Physician at the University Health Care Complex of Salamanca
- ♦ Associate Professor of Emergency Medicine at the University of Salamanca
- ♦ PhD in Medicine from the University of Salamanca
- ♦ Degree in Medicine and Surgery from the University of Salamanca.
- ♦ Certified in Emergency Medicine by the Spanish Society of Emergency Medicine (SEMES)
- ♦ Member of: Clinical Toxicology Section of the Spanish Association of Toxicology (AETOX), Clinical Toxicology Working Group of the Spanish Society of Emergency Medicine (SEMETOX), European Association of Poison Control Centres and Clinical Toxicology (EAPCCT) and Founder of the Spanish Foundation of Toxicology (FETOC).

**Dr. Plácido Mayan Conesa**

- ♦ Emergency Coordinator at University Hospital Clínico Universitario de Santiago
- ♦ Emergency Physician at the University Hospital Complex of La Coruña.
- ♦ Reviewer of Emergencias magazine
- ♦ Advanced Life Support Teacher
- ♦ Graduate in Medicine and Surgery from the Universidad de Navarra
- ♦ Specialist in Family and Community Medicine
- ♦ Diploma in Advanced Studies from the University of La Coruña
- ♦ Member of SEMES (board of directors)

**Dr. María Teresa Maza Vera**

- ♦ Undersecretariat of Accreditation and Quality of SEMES
- ♦ Hospital Emergency Physician at the Álvaro Cunqueiro Hospital in Vigo.
- ♦ Member of the Toxicology Working Group of SEMES Galicia
- ♦ Coordinator of the Scientific Committee XXIV Autonomous Congress SEMES Galicia
- ♦ Specialist in Family and Community Medicine
- ♦ Diploma of Advanced Studies in Health Sciences from the University of Vigo.

**Mr. José María Rodríguez Domínguez**

- ♦ National Police Officer In Spain
- ♦ 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**

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

**Mr. Carnero Fernandez, César Antonio**

- ♦ Deputy Inspector of National Police
- ♦ Specialist in narcotic intoxication in the TEDAX-NRBQ Unit.

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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

This Postgraduate Certificate comprises a course load of 1 module of study, developed by expert teachers, which will be much easier to understand, thanks to the methodology implemented for its design. This is Relearning, a study system based on the reiteration of the most important concepts during the program in different formats so that the student can analyze them from all possible perspectives. As well as self-knowledge, which will allow you to see the progress of your learning. Its 100% online modality highlights the flexibility needed today to combine current activities with training, without having to make great sacrifices and being able to study from wherever, however and whenever you want.





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*A curriculum adapted to all possibilities. You will enjoy a convenient schedule and an advanced teaching method"*

## Module 1. Toxicology and Pharmacology

- 1.1. Poisoning by Analgesics and Anti-Inflammatory Drugs
  - 1.1.1. Preliminary
    - 1.1.1.1 Introduction
    - 1.1.1.2 Index
    - 1.1.1.3 Objectives
  - 1.1.2. Paracetamol
  - 1.1.3. NSAIDs
  - 1.1.4. Salicylates
  - 1.1.5. Colchicine
  - 1.1.6. Conclusions and Key Points
- 1.2. Psychotropic Drug Poisoning
  - 1.2.1. Preliminary
    - 1.2.1.1 Introduction
    - 1.2.1.2 Index
    - 1.2.1.3 Objectives
  - 1.2.2. Antidepressants
    - 1.2.2.1 Tricyclics
    - 1.2.2.2 Selective Serotonin Reuptake Inhibitors (SSRIs)
    - 1.2.2.3 Monoamine Oxidase Inhibitors (MAOIs)
  - 1.2.3. Lithium
  - 1.2.4. Sedative-Hypnotic Drugs
    - 1.2.4.1 Benzodiazepines
    - 1.2.4.2 Barbiturates
    - 1.2.4.3 Non-Benzodiazepine and Non-Barbiturate Sedative-Hypnotic Drugs
  - 1.2.5. Antipsychotics
  - 1.2.6. Anticonvulsants
  - 1.2.7. Conclusions and Key Points



- 1.3. Antiarrhythmic and Antihypertensive Drug Poisoning
  - 1.3.1. Preliminary
    - 1.3.1.1 Introduction
    - 1.3.1.2 Index
    - 1.3.1.3 Objectives
  - 1.3.2. Digoxin
  - 1.3.3. Beta-Blockers
  - 1.3.4. Calcium Antagonists
  - 1.3.5. Conclusions and Key Points
- 1.4. Poisoning by Other Drugs
  - 1.4.1. Preliminary
    - 1.4.1.1 Introduction
    - 1.4.1.2 Index
    - 1.4.1.3 Objectives
  - 1.4.2. Antihistamines
  - 1.4.3. Anticoagulants
  - 1.4.4. Metoclopramide
  - 1.4.5. Hypoglycemics
  - 1.4.6. Conclusions and Key Points

“*This Postgraduate Certificate in Drug-Related Toxicologic Emergencies is the answer to today's specialist's need for updating. Enroll now and evolve*”



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 we use the Case Method

What should a professional do in a given situation? 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. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning 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, trying to recreate the real conditions in the physician's professional 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. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
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 the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving 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, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. 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 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.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and 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 the videos as many times as you like.



#### 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 on the usefulness of learning by observing experts. The system known as 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 in Primary Care 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 Drug-Related Toxicologic Emergencies** 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 Drug-Related Toxicologic Emergencies**

Modality: **online**

Duration: **6 weeks**

Accreditation: **4 ECTS**





**Postgraduate Certificate**  
Drug-Related Toxicologic  
Emergencies

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 4 ECTS
- » Schedule: at your own pace
- » Exams: online

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## Drug-Related Toxicologic Emergencies

