

# Postgraduate Certificate Pharmacology of Hematooncologic Emergencies





## Postgraduate Certificate Pharmacology of Hematooncologic Emergencies

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

Website: [www.techtitute.com/in/pharmacy/postgraduate-certificate/pharmacology-hematooncologic-emergencies](http://www.techtitute.com/in/pharmacy/postgraduate-certificate/pharmacology-hematooncologic-emergencies)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

The specialty of Hospital Pharmacy has undergone a great transformation since its beginnings, improving both its logistical and technological functions and gradually incorporating, with exponential growth, more clinical activities close to the patient and, more specifically, from the area of Oncohematology. According to the great importance and the current boom in this field of knowledge, this academic program has been designed, providing the professionals with a vast content related to pain management, multimodal pharmacotherapy and acute treatment of sickle cell disease. All this with an online pedagogical format and with a team of experienced teachers in Pharmacology of Oncohematological Emergencies.





“

*TECH is innovation and this Postgraduate Certificate in Hospital Pharmacy is a true reflection of that"*

In this transformation, undoubtedly, oncohematology pharmacy is a clear example of subspecialization, improving the education and training of hospital pharmacy professionals, creating a body of knowledge that is allowing to improve patient care and having a very important role in patient care. This area is undoubtedly the one that is currently undergoing the greatest level of therapeutic innovation, highlighting aspects in which change is becoming more relevant and for which experts in the sector will have to be prepared in the coming years.

Thus, scientific studies in this context have advanced to answer various questions confirming that experts in the pharmacy sector must be up to date in this area of knowledge that is constantly evolving. In this sense, this Postgraduate Certificate will provide the professionals with the most important novelties in the Pharmacology of Oncohematological Emergencies.

Students will expand their competencies in essential points related to the incidence, diagnosis, outpatient treatment and pharmacotherapeutic arsenal against venous thromboembolism in oncohematological patients. On the other hand, it is a program that integrates a highly qualified and experienced teaching staff, together with audiovisual content of the highest quality that offers a better experience to students for its dynamism and comfort with the online modality.

Therefore, TECH is focused on excellence and comfort, offering the most complete update and with the highest standards, being a qualification of great flexibility by only needing a device with Internet connection to easily access the virtual platform from the comfort of the place where you are.

This **Postgraduate Certificate in Pharmacology of Hematooncologic 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 Pharmacy, Hospital Management, among others
- ◆ The graphic, schematic and eminently practical contents of the book provide scientific and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*In TECH you will continue to expand your knowledge and you will be able to answer questions in subfields such as Pharmacology of Oncohematological Emergencies"*



*This program integrates a highly qualified and specialized professional team"*

*This Postgraduate Certificate will provide you with the most innovative updates on the mechanisms of malignant transformation in hematopoietic cells.*

*TECH is excellence and efficiency, offering you innovative tools and the most current content of the academic program.*

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.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby professionals 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 experts.



# 02

# Objectives

This Postgraduate Certificate in Pharmacology of Hematooncologic Emergencies has been developed essentially to provide the professionals with the most recent updates in the field of Hospital Pharmaceutics. For this reason, TECH offers a wide variety of didactic tools, guaranteeing the success in the development of the program. Upon completion of this program, the students will have enhanced their knowledge of the pathophysiology, risk factors, clinical presentation, hydroelectrolytic alterations, prevention and treatment of Tumor Lysis Syndrome.





“

*TECH is at the forefront, providing you with advanced content on mechanisms of development and progression of oncohematological diseases”*



## General Objectives

---

- ◆ Identify management of a wide variety of clinical situations, using available patient-specific information (e.g., age-related, risk factors, relevant acuity indices, prehospital providers)
- ◆ Develop therapeutic and monitoring plans based on medication-related issues, patient-specific and disease-specific information, and laboratory data
- ◆ Summarize strategies for the procurement, preparation, and administration of time-sensitive therapies
- ◆ Assess applicability and limitations of published data and reports to patient care
- ◆ Modify the treatment plan based on monitoring the patient's response to initial therapy





## Specific Objectives

---

- ◆ Delve into the incidence, diagnosis, outpatient treatment and pharmacotherapeutic arsenal against venous thromboembolism in oncohematological patients
- ◆ Deepen in the pathophysiology, risk factors, clinical presentation, hydroelectrolytic alterations, prevention and treatment of the Tumor Lysis Syndrome
- ◆ Determine the pathophysiology, risk factors, clinical presentation, hydroelectrolytic alterations, prevention and treatment of tumor hypercalcemia
- ◆ Address pain management, multimodal pharmacotherapy and acute treatment of sickle cell disease



*You will broaden your skills in areas such as the diagnosis and classification of tumor hypercalcemia"*

03

# Course Management

Students will have the opportunity to access a content developed by a teaching staff with a great background and specialized in Pharmacy, Human Nutrition and Dietetics, Hospital Pharmacy and pharmacotherapeutic supervision of critical patients in Emergency Services. That is why its wide experience and solid knowledge bases will allow the graduates to solve doubts and answer questions that may arise during the course of the program.



“

*The content to which you will have access was designed by professional specialists in design, architecture and sculpture in public space”*

## Management



### Mr. Ramo Rodríguez, Javier

- ◆ Pharmacist at Hospital Corporación Sanitaria Parc Taulí, Sabadell, Spain
- ◆ Coordinating member of the working group of pharmacists specializing in the Emergency Department (RedFaster)
- ◆ Pharmacist specializing in Hospital Pharmacy at Hospital Mútua de Terrassa
- ◆ Pharmacist specializing in Hospital Pharmacy at Consorci Sanitari Integral
- ◆ Resident Pharmacist at Servicio Canario de la Salud (Canary Health Service)
- ◆ Assistant Pharmacist in Pharmacy María Concepción Gutiérrez
- ◆ Assistant Pharmacist in Pharmacy Marina López González
- ◆ Master in Pharmacotherapeutic Follow-up of HIV/AIDS patients by the University of Granada

## Professors

### Mr. De Gorostiza Frías, Carlos

- ◆ Specialist Pharmacist in Quirónsalud's Central Purchasing Office
- ◆ Resident in Hospital Pharmacy at the Fundación Jiménez Díaz Hospital
- ◆ Clinical researcher for the University of Granada
- ◆ Supervised stay at Centro Tecnológico Nacional de la Conserva y Alimentación (National Technological Center of Preserves and Food)
- ◆ Supervised stay at St Georges Hospital in London
- ◆ Double Degree in Pharmacy and Human Nutrition and Dietetics



04

# Structure and Content

This program has been oriented to the professionals according to the current studies in the pharmaceutical field, applying a study plan that provides a robust content on the Pharmacology of Oncohematologic Emergencies. This Postgraduate Certificate is designed to provide advanced knowledge on Pharmacology of antibiotics used in the empirical treatment of febrile neutropenia. All this according to the various audiovisual tools that provide dynamism in the development of the academic program.







“

*A syllabus developed with advanced content on Pharmacology of Oncohematological Emergencies"*

## Module 1. Pharmacology of Oncohematologic Emergencies

- 1.1. Venous thromboembolism in oncohematological patients
  - 1.1.1. Epidemiology and risk factors of VTE in oncohematologic patients
  - 1.1.2. Diagnosis and classification of venous thromboembolism in patients with hematologic cancers
  - 1.1.3. Pharmacology of anticoagulants used in the treatment and prevention of VTE in oncohematological patients
  - 1.1.4. Use of thrombolytics in severe cases of VTE in oncohematologic patients
- 1.2. Tumor Lysis Syndrome
  - 1.2.1. Classification and diagnosis of Tumor Lysis Syndrome
  - 1.2.2. Use of allopurinol and rasburicase in the prevention and management of hyperuricemia in SLT
  - 1.2.3. Treatment of electrolyte disturbances in the Tumor Lysis Syndrome
  - 1.2.4. Pharmacologic management of hyperkalemia in patients with SLT
- 1.3. Tumor hypercalcemia
  - 1.3.1. Mechanisms of action of tumors to provoke hypercalcemia
  - 1.3.2. Types of tumors associated with Hypercalcemia
  - 1.3.3. Diagnosis and classification of tumor hypercalcemia
  - 1.3.4. Risk assessment and prognostic factors in patients with tumor hypercalcemia
- 1.4. Febrile Neutropenia
  - 1.4.1. Mechanisms of action of tumors to provoke hypercalcemia
  - 1.4.2. Types of tumors associated with Hypercalcemia
  - 1.4.3. Diagnosis and classification of tumor hypercalcemia
  - 1.4.4. Risk assessment and prognostic factors in patients with tumor hypercalcemia



- 1.5. Sickle cell disease
  - 1.5.1. Genetics and inheritance of sickle cell disease
  - 1.5.2. Diagnosis and Classification of sickle cell disease
  - 1.5.3. Pharmacology of drugs used in the treatment and management of SCD
  - 1.5.4. Use of hydroxyurea in the treatment and prevention of vasoocclusive crises
- 1.6. Mechanisms of development and progression of oncohematological diseases
  - 1.6.1. Genetics and molecular biology of normal and cancerous hematopoietic cells
  - 1.6.2. Mechanisms of malignant transformation of hematopoietic cells
  - 1.6.3. Role of genetic mutations in hematologic oncogenesis
  - 1.6.4. Tumor microenvironment and its influence on the progression of oncohematological diseases
- 1.7. Pharmacology of drugs used in Oncohematological Emergencies
  - 1.7.1. Pharmacology of drugs used in stabilization and life support in oncohematological patients
  - 1.7.2. Pharmacological management of acute hematological complications, such as severe anemia and thrombocytopenia
  - 1.7.3. Pharmacotherapy in cases of febrile neutropenia in patients with blood cancers
  - 1.7.4. Use of drugs for the control of acute pain in oncohematological patients
- 1.8. Treatment of febrile neutropenia
  - 1.8.1. Etiology and risk factors of febrile neutropenia in oncologic and hematologic patients
  - 1.8.2. Diagnosis and classification of Febrile Neutropenia
  - 1.8.3. Pharmacology of antibiotics used in the empirical treatment of febrile neutropenia
  - 1.8.4. Use of colony-stimulating factors (G-CSF) in the management of febrile neutropenia
- 1.9. Treatment of tumor lysis syndrome
  - 1.9.1. Risk factors and prediction of the risk of developing Tumor Lysis Syndrome
  - 1.9.2. Diagnosis and classification of Tumor Lysis Syndrome
  - 1.9.3. Pharmacology of drugs used in the prophylaxis and treatment of Tumor Lysis Syndrome
  - 1.9.4. Use of allopurinol and rasburicase in the prevention and management of hyperuricemia in SLT
- 1.10. Leukemia and Lymphoma Emergencies
  - 1.10.1. Oncohematologic Emergencies
  - 1.10.2. Acute Leukemia Emergencies
  - 1.10.3. Pharmacology of induction and consolidation treatments in acute leukemias
  - 1.10.4. Treatment of infectious complications in patients with leukemias and lymphomas



*A 100% online program that provides flexibility and convenience to delve into Etiology and risk factors of febrile neutropenia at your convenience"*

# 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.



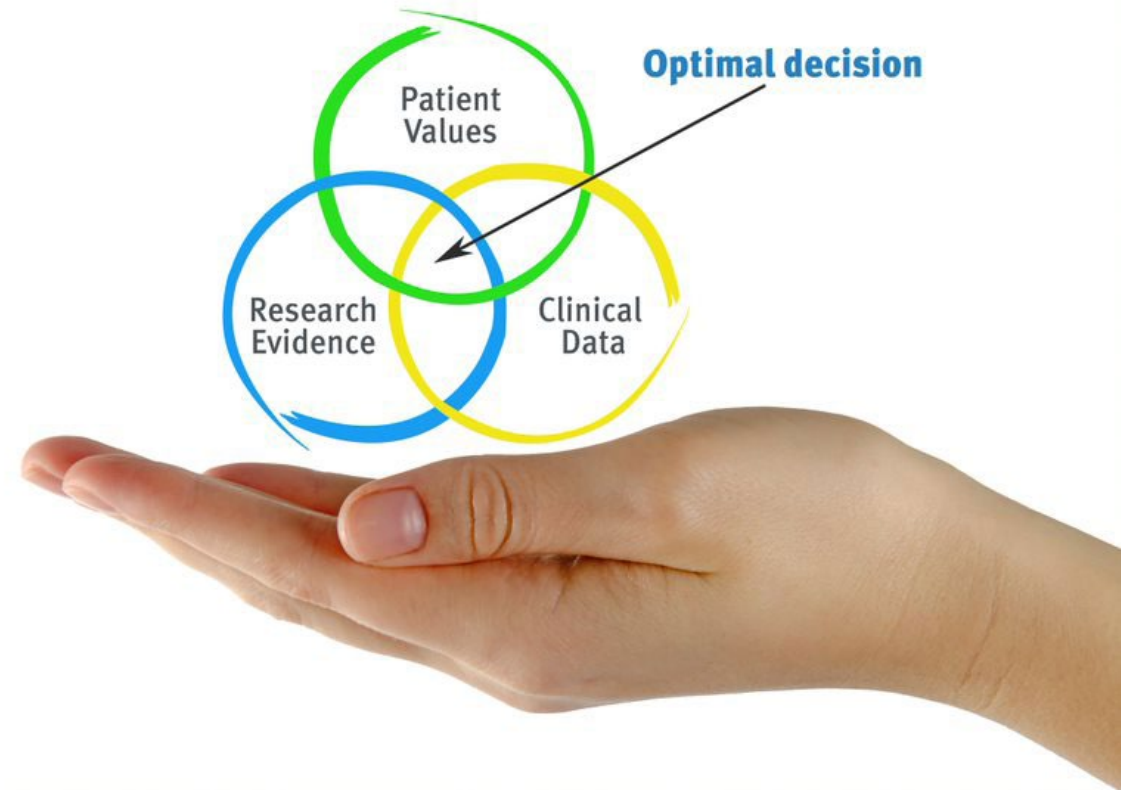


*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly 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. 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, attempting to recreate the actual conditions in a pharmacist's professional 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. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their 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.

Our 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, which represent a real revolution with respect to simply studying and analyzing cases.

*Pharmacists 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, more than 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your 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 created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.



### Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.



### Interactive Summaries

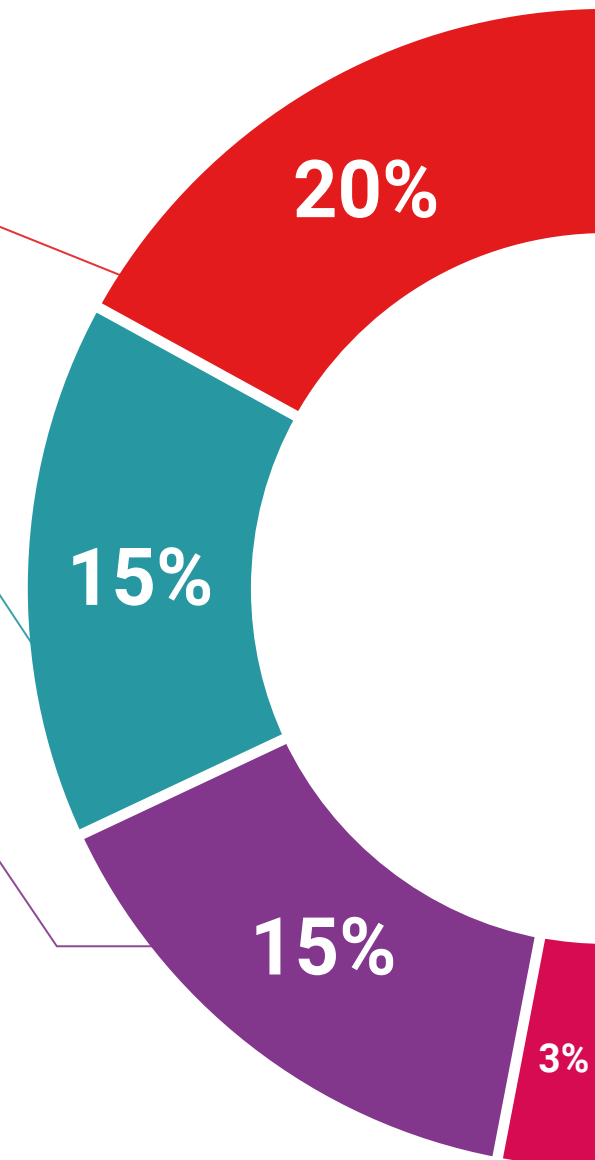
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

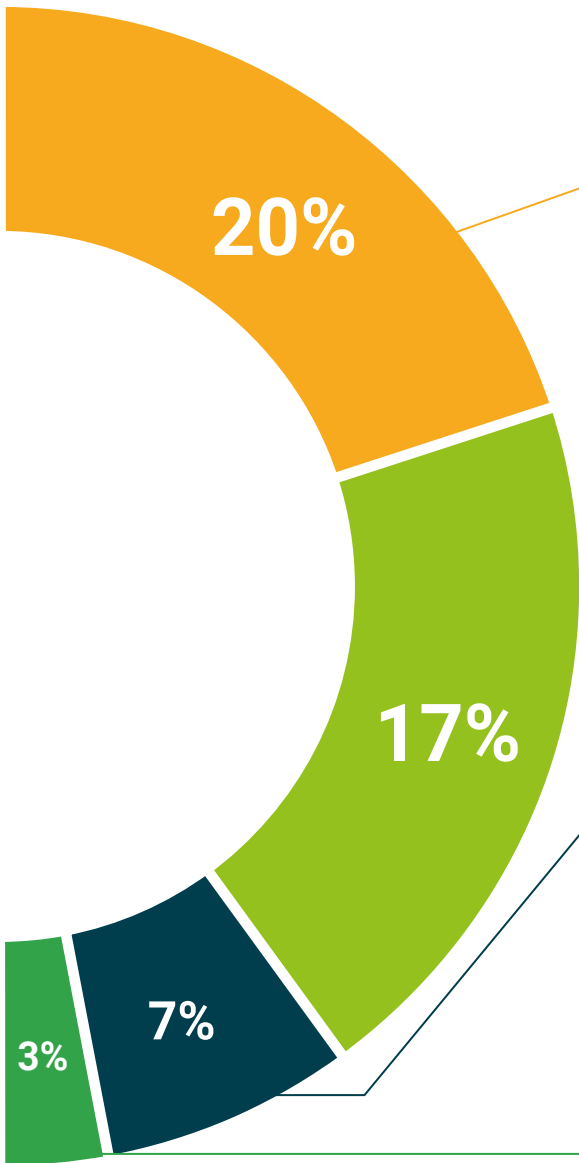
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



### 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, we will present you with real case developments in which the expert will guide you through 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 Pharmacology of Hematooncologic Emergencies guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



“

*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This **Postgraduate Certificate in Pharmacology of Hematooncologic Emergencies** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Pharmacology of Hematooncologic Emergencies**

Official N° of hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



**Postgraduate Certificate**  
Pharmacology of  
Hematooncologic Emergencies

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

# Postgraduate Certificate Pharmacology of Hematooncologic Emergencies

