

Postgraduate Certificate

Hematology from a Clinical Point of View





Postgraduate Certificate Hematology from a Clinical Point of View

Course Modality: **Online**

Duration: 12 **weeks**

Certificate: **TECH Technological University**

Teaching Hours: **150 hours.**

Website: www.techtitute.com/us/medicine/postgraduate-certificate/hematology-clinical-point-view

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01

Introduction

The specific knowledge in hematology from the clinical point of view requires clinical analysis laboratory professionals to be highly qualified and their knowledge to be constantly updated in order to remain competitive and at the forefront in this field of work.

In this complete course, we offer you the possibility to achieve your qualification in a simple and very efficient way.

Through the most developed teaching techniques, you will learn the theory and practice of all the advances needed to work in a clinical analysis laboratory at a high level. With a structure and plan that is totally compatible with your personal and professional life.



“

The latest techniques and work systems in Hematology from a Clinical Point of View in a course developed with the most efficient teaching system on the market”

This intense course provides the clinician with specialized knowledge in the approach to blood pathologies, both oncologic and non-oncologic or benign, with the aim of obtaining the necessary tools to make an adequate differential diagnosis of the different hemopathologies.

The laboratory study with the analysis and peripheral blood smear in addition to other more complex tests, allows a comprehensive and specialized diagnosis of the most relevant hematological diseases.

In the area of Hematology, it deals with the clinical study and diagnosis of the most frequent alterations of red blood cells, white blood cells and platelets, as well as hematological malignancies, leukemias and lymphomas.

A complete review that will also develop specialized knowledge for the study of alterations in the hemostatic system; hemorrhagic pathology and problems of hypercoagulability or thrombosis, in addition to improving skills in hemotherapy and transfusion medicine.

This **Postgraduate Certificate in Hematology from a Clinical Point of View** offers you the advantages of a high-level scientific, teaching and technological course. These are some of its most notable features:

- ◆ The latest technology in online teaching software
- ◆ Highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand.
- ◆ Practical cases presented by practising experts.
- ◆ State-of-the-art interactive video systems.
- ◆ Teaching supported by telepractice.
- ◆ Continuous updating and recycling systems.
- ◆ Self-regulating learning: full compatibility with other occupations.
- ◆ Practical exercises for self-evaluation and learning verification.
- ◆ Support groups and educational synergies: questions to the expert, debate and knowledge forums.
- ◆ Communication with the teacher and individual reflection work.
- ◆ Content that is accessible from any fixed or portable device with an Internet connection.
- ◆ Complementary documentation banks permanently available, even after the Postgraduate Certificate.



With this course, you will be able to combine high intensity training with your personal and professional life, achieving your goals in a simple and real way”

“ *A highly skilled course which will allow you to become a highly competent professional in Hematology in a clinical analysis laboratory*”

The teachers of this Postgraduate Certificate are professionals currently working in a modern and accredited Clinical Laboratory, with a very solid training base and up-to-date knowledge in both scientific and purely technical disciplines.

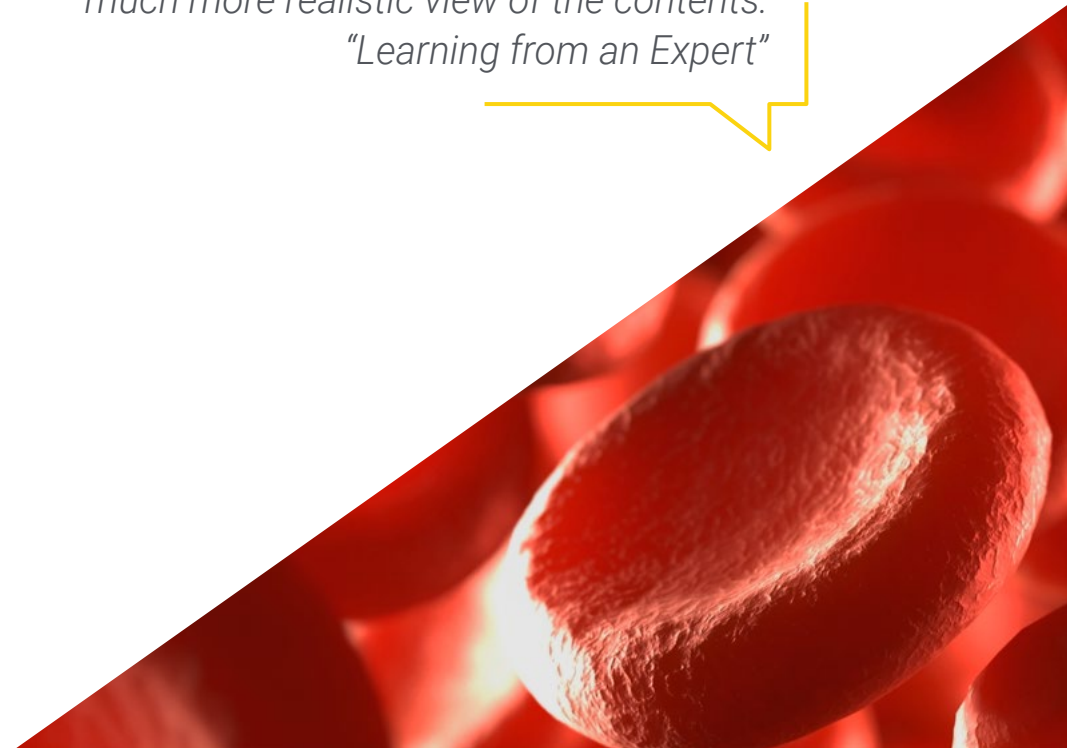
In this way, we ensure that we provide you with the training update we are aiming for. A multidisciplinary team of professionals trained and experienced in different environments, who will cover the theoretical knowledge in an efficient way, but, above all, will put the practical knowledge derived from their own experience at the service of the course: one of the differential qualities of this training.

This mastery of the subject is complemented by the effectiveness of the methodological design of this Postgraduate Certificate in Hematology from a Clinical Point of View. Developed by a multidisciplinary team of experts who integrate the latest advances in educational technology. This way, you will be able to study with a range of comfortable and versatile multimedia tools that will give you the operability you need in your training.

The design of this program is based on Problem-Based Learning: an approach that conceives learning as a highly practical process. To achieve this remotely, we will use telepractice: With the help of an innovative interactive video system and *Learning from an Expert* you will be able to acquire the knowledge as if you were actually dealing with the scenario you are learning about. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

The learning of this Postgraduate Certificate is developed through the most advanced didactic means in online teaching to guarantee that your effort will have the best possible results.

Our innovative telepractice concept will give you the opportunity to learn through an immersive experience, which will provide you with a faster integration and a much more realistic view of the contents: “Learning from an Expert”



02 Objectives

The objective of this training is to offer professionals who work in clinical analysis laboratories, the necessary knowledge and skills to perform their duties using the most advanced protocols and techniques of the moment. Through a study plan totally adapted to the student, this Postgraduate Certificate will progressively allow you to acquire the skills that will push you towards a much higher professional level.





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Learn from the best and study the techniques and work procedures of Clinical Analysis to be able to work in the best laboratories in the field.



General Objectives

- ◆ Identify the main hematological alterations in analytical tests.
- ◆ Propose the essential complimentary examinations for the clinical approach in patients with a hematological disease.
- ◆ Correlate laboratory findings with clinical entities.
- ◆ Establish differential diagnosis of the main blood dyscrasias.





Specific Objectives by Modules

Module 1

- ◆ Determine the quantitative and qualitative alterations of the different blood cells.
- ◆ Deepen understanding of peripheral blood smears of red blood series alterations.
- ◆ Identify white blood cell abnormalities and their main causes.
- ◆ Present the most frequent platelet disorders.
- ◆ Propose a differential diagnosis of myelodysplastic and myeloproliferative syndromes.
- ◆ Analyze the complementary tests for the initial evaluation of acute leukemias.
- ◆ Establish a differential diagnosis of the main acute and chronic lymphoid neoplasms.
- ◆ Identify the various coagulation pathologies.
- ◆ Establish appropriate guidelines for transfusion procedures.



A boost to your CV that will give you the competitiveness of the best prepared professionals in the labor market"

03

Course Management

For our course to be of the highest quality, we are proud to work with a teaching staff of the highest level, chosen for their proven track record. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





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An impressive teaching staff, made up of professionals from different areas of expertise, will be your teachers during your training: a unique opportunity not to be missed”

International Guest Director

Jeffrey Jhang, M.D. is a dedicated expert in Clinical Pathology and Laboratory Medicine. He has won several awards in these areas, including the Dr. Joseph G. Fink Award from the Columbia University College of Medicine and Surgery, among other recognitions from the College of American Pathologists.

His scientific leadership has been latent thanks to his exhaustive work as Medical Director of the Clinical Laboratory Center, attached to the Icahn School of Medicine at Mount Sinai. At the same institution, he coordinates the Department of Transfusion Medicine and Cell Therapy. In addition, Dr. Jhang has held management positions in the Clinical Laboratory at the Langone Health Center of New York University and as Chief of the Laboratory Service at Tisch Hospital.

Through these experiences, the expert has mastered different functions such as the supervision and management of laboratory operations, complying with the main regulatory standards and protocols. In turn, he has collaborated with interdisciplinary teams to contribute to the accurate diagnosis and care of different patients. On the other hand, he has spearheaded initiatives to improve the quality, performance and efficiency of analytical technical facilities.



Dr. Jhang, Jeffrey

- Director of Clinical Laboratories at NYU Langone Health, New York, United States
- Director of Clinical Laboratories at NYU Tisch Hospital, New York
- Professor of Pathology at the NYU Grossman School of Medicine
- Medical Director of the Clinical Laboratory Center at Mount Sinai Health System
- Director of the Blood Bank and Transfusion Service at Mount Sinai Hospital
- Director of Hematology and Coagulation Specialty Laboratory at Columbia University Irving Medical Center
- Director of the Parathyroid Tissue Collection and Processing Center at Columbia University Irving Medical Center
- Assistant Director of Transfusion Medicine at Columbia University Irving Medical Center
- Transfusion Medicine Specialist at the New York Blood Bank
- M.D. from the Icahn School of Medicine at Mount Sinai
- Anatomic and Clinical Pathology Residency at NewYork-Presbyterian Hospital
- Member of:

“

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

Management



Ms. Montserrat Cano Armenteros

- Bachelor's Degree in Biology. University of Alicante
- Master's Degree in Clinical Trials University of Seville
- Official Professional Master's Degree in Primary Care Research by the Miguel Hernández University of Alicante for the Doctorate Recognition from the University of Chicago, USA Outstanding.
- Certificate of Pedagogical Aptitude (CAP) University of Alicante

Professors

Dr. Carmona Talavera, Diego

- ◆ Degree in Biochemistry from the University of Córdoba (2014)
- ◆ Specialist in Clinical Analysis through BIR (2020).
- ◆ Master's Degree on the Theoretical Basis and Laboratory Procedures of Assisted Reproduction from the University of Valencia (2019) University Expert in Medical Genetics and Genomics by the Catholic University San Antonio de Murcia (2020).
- ◆ Postgraduate Diploma in Health Services Management from the University of Seville (2019)
- ◆ Cytology, Histology and Embryology Professor at GoBIR Academy (2019)
- ◆ Site Coordinator at GoFIR Academy in Valencia (from 2019)
- ◆ Professor of Biochemistry, Molecular Biology and Genetics at GoFIR Academy (since the 2017 academic year).
- ◆ Clinical Analysis Specialist, Head of the Laboratory of the Vithas Valencia Consuelo Hospital (July - November 2020)
- ◆ Member of the AEFA New Specialists Commission (since July 2020).
- ◆ Resident member of the National Commission of Clinical Analysis (since May 2018).
- ◆ Resident Internal Biochemist of Clinical Analysis at the UH. Dr. Peset de Valencia (2016-2020)
- ◆ MECD Collaboration Grant in the Department of Biochemistry and Molecular Biology at the University of Cordoba (2013-2014)



04

Structure and Content

The contents of this Postgraduate Certificate have been developed by the different experts on the program, with a clear purpose: to ensure that our students acquire each and every one of the necessary skills to become true experts in this field.

A complete and well-structured program that will take you to the highest standards of quality and success.



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Acquire the ability to compete among the best clinical analysis professionals with this comprehensive course that will give you a boost in your profession”

Module 1 Hematology

- 1.1. Introduction to the Hematopoietic System and Study Techniques
 - 1.1.1. Classification of Blood Cells and Hematopoiesis
 - 1.1.2. Hemacytometry and Blood Smear Study
 - 1.1.3. Bone Marrow Study
 - 1.1.4. Role of the Pathologist in the Diagnosis of Testicular Neoplasms
 - 1.1.5. Role of Immunophenotyping in the Diagnosis of Hematologic Disorders
- 1.2. Diagnosis of Erythrocyte Disorders Anemias, Erythrocytosis, Hemoglobinopathies and Thalassemias
 - 1.2.1. Classification of the Types of Anaemia
 - 1.2.1.1. Etiopathogenic Classification
 - 1.2.1.2. Classification According to VCM
 - 1.2.1.2.1. Microcytic Anemia
 - 1.2.1.2.2. Normocytic Anemia
 - 1.2.1.2.3. Macrocytic Anemia
 - 1.2.2. Erythrocytosis Differential Diagnosis
 - 1.2.2.1. Primary Erythrocytosis
 - 1.2.2.1. Secondary Erythrocytosis
 - 1.2.3. Hemoglobinopathies and Thalassemias
 - 1.2.3.1. Classification
 - 1.2.3.2. Laboratory Diagnosis
- 1.3. Quantitative Alterations of the White Series
 - 1.3.1. Neutrophils: Neutropenia and Neutrophilia
 - 1.3.2. Lymphocytes: Lymphopenia and Lymphocytosis
- 1.4. Diagnosis of Platelet Disorders
 - 1.4.1. Morphologic Alterations: Thrombocytopathies
 - 1.4.2. Thrombocytopenia Diagnostic Approximation





1.5. Myeloproliferative and Myelodysplastic Syndromes

1.5.1. Laboratory Findings and Complementary Examinations

1.5.1.1. Hemogram and Peripheral Blood Smear

1.5.1.2. Bone Marrow Study

1.5.1.2.1. Bone Marrow Morphology

1.5.1.2.2. Flow Cytometry

1.5.1.2.3. Cytogenetics

1.5.1.2.4. Molecular Biology

1.5.2. Diagnosis Classification Differential Diagnosis

1.6. Monoclonal Gammopathies Multiple Myeloma

1.6.1. Study of Monoclonal Gammopathies

1.6.1.1. Bone Marrow Morphology

1.6.1.2. Study of the Monoclonal Component

1.6.1.3. Other Laboratory Studies

1.6.2. Classification of Monoclonal Gammopathies Differential Diagnosis

1.6.2.1. Monoclonal Gammopathy of Uncertain Significance and Quiescent Myeloma

1.6.2.2. Multiple Myeloma

1.6.2.2.1 Diagnostic Criteria

1.6.2.3. Amyloidosis

1.6.2.4. Waldenström's Macroglobulinemia

1.7. Differential Diagnosis of Acute Leukemia

1.7.1. Acute Myeloid Leukemia Promyelocytic Leukemia

1.7.1.1 Laboratory Findings and Complementary Examinations

1.7.1.2. Hemogram and Peripheral Blood Smear

1.7.1.3. Bone Marrow Study

1.7.1.3.1. Bone Marrow Morphology

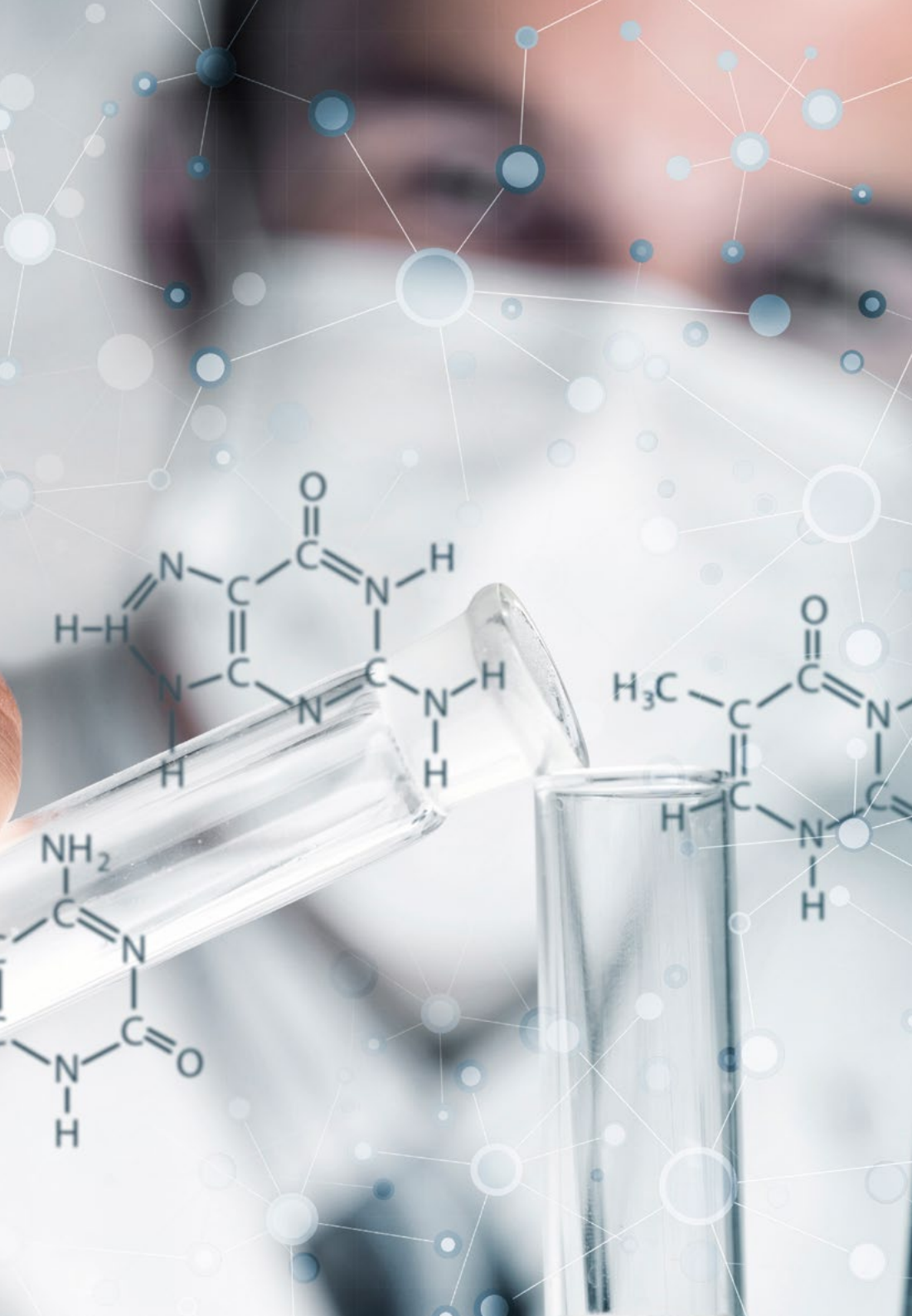
1.7.1.3.2. Flow Cytometry

1.7.1.3.3. Cytogenetics

1.7.1.3.4. Molecular Biology

1.7.1.4. Diagnosis Classification

- 1.7.2. Acute Lymphoid Leukemia
 - 1.7.2.1. Laboratory Findings and Complementary Examinations
 - 1.7.2.2. Hemogram and Peripheral Blood Smear
 - 1.7.2.3. Bone Marrow Study
 - 1.7.1.2.1. Bone Marrow Morphology
 - 1.7.1.2.2. Flow Cytometry
 - 1.7.1.2.3. Cytogenetics
 - 1.7.1.2.4. Molecular Biology
 - 1.7.2.4. Diagnosis Classification
- 1.8. Mature B- and T-Lymphoid Neoplasms
 - 1.8.1. Chronic Lymphoproliferative Syndromes B. Chronic Lymphocytic Leukemia
 - 1.8.1.1. Laboratory Studies and Differential Diagnosis
 - 1.8.1.1.1. Chronic Lymphocytic Leukemia
 - 1.8.1.1.2. Tricholeukemia
 - 1.8.1.1.3. Splenic Marginal Zone Lymphoma
 - 1.8.1.1.4. Prolymphocytic Leukemia
 - 1.8.1.1.5. Granular Lymphocyte Leukemia
 - 1.8.2. Non-Hodgkin's Lymphomas
 - 1.8.2.1. Initial Study and Diagnosis
 - 1.8.2.2. Classification of Lymphoid Neoplasms
 - 1.8.2.2.1. Follicular Lymphoma
 - 1.8.2.2.2. Mantle Cell Lymphoma
 - 1.8.2.2.3. Diffuse Large B-cell Lymphoma
 - 1.8.2.2.4. MALT Lymphoma
 - 1.8.2.2.5. Burkitt Lymphoma
 - 1.8.2.2.6. Peripheral T Lymphomas
 - 1.8.2.2.7. Cutaneous Lymphomas
 - 1.8.2.2.8. Others
- 1.8.2. Hodgkin's Lymphomas
 - 1.8.2.1. Complementary Tests
 - 1.8.2.2. Histological Classification
- 1.9. Diagnosis of Coagulation Disorders
 - 1.9.1. Study of Hemorrhagic Diatheses
 - 1.9.1.1. Initial Tests
 - 1.9.1.2. Specific Studies
 - 1.9.2. Congenital Coagulation Alterations
 - 1.9.2.1. Hemophilia A and B
 - 1.9.2.2. Von Willebrand Disease
 - 1.9.2.3. Other Congenital Coagulopathies
 - 1.9.3. Acquired Coagulation Alterations
 - 1.9.4. Thrombosis and Thrombophilia Antiphospholipid Syndrome
 - 1.9.5. Monitoring of Antocoagulant Therapy
- 1.10. Introduction to Hemotherapy
 - 1.10.1. Blood Groups
 - 1.10.2. Blood Components
 - 1.10.3. Recommendations for the Use of Blood Derivatives
 - 1.10.4. Most Common Transfusional Reactions



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A unique, key and decisive training 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 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

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 Harvard 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.

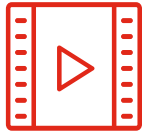
Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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.

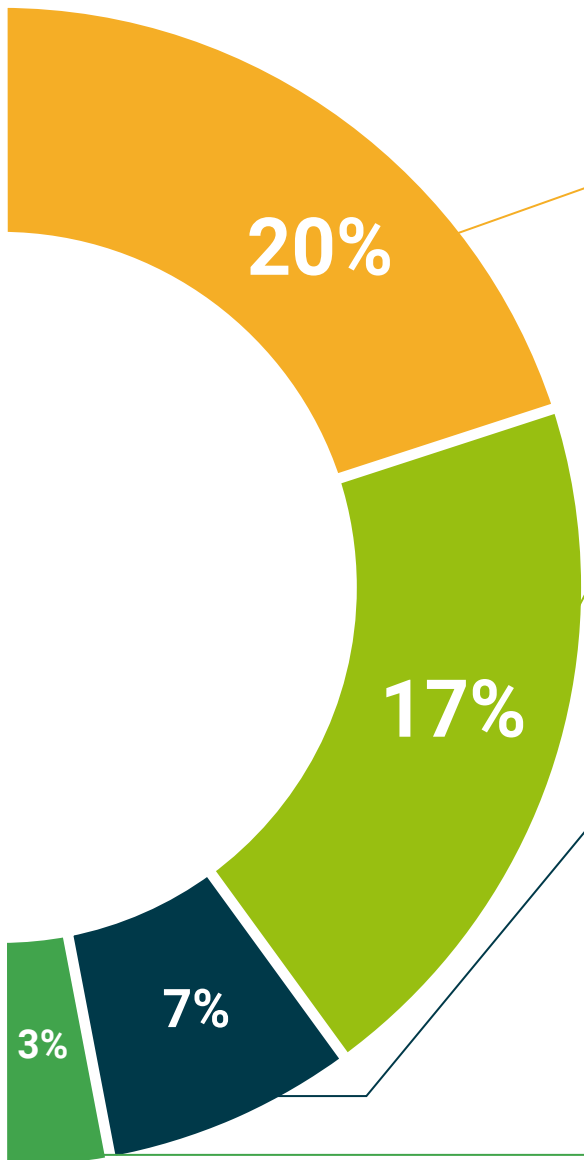
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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

Through a different and stimulating learning experience, you will be able to acquire the necessary skills to take a big step in your training. An opportunity to progress, with the support and monitoring of a modern and specialized university, which will propel you to another professional level.



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Include in your training a Postgraduate Certificate in Hematology from a Clinical Point of View: a highly qualified added value for any medical professional"

This **Postgraduate Certificate in Hematology from a Clinical Point of View** 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 diploma 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 Hematology from a Clinical Point of View**

Official N° of Hours: **150 hours**.



*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION 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 quality
development languages
virtual classroom



**Postgraduate
Certificate**
Hematology from a
Clinical Point of View

Course Modality: **Online**

Duration: **12 weeks**

Certificate: **TECH Technological University**

Teaching Hours: **150 hours.**

Postgraduate Certificate

Hematology from a Clinical Point of View

HbA1c - Test