

Postgraduate Certificate Cytological Diagnosis





Postgraduate Certificate Cytological Diagnosis

Course Modality: **Online**

Duration: **2 months.**

Certificate: **TECH Technological University**

8 ECTS Credits

Teaching Hours: **200 hours.**

Website: www.techtute.com/medicine/postgraduate-certificate/postgraduate-certificate-cytological-diagnosis

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01

Introduction

Increasingly frequent requests are being made for tests aimed at the diagnosis of cancer, whether they are blood tests, imaging or cytohistological tests. What is clear is that more information is needed about tumor biology with smaller and smaller samples taken by less invasive techniques. Cytology plays a fundamental role in this process. Therefore, thanks to this Postgraduate Certificate, the professional will deepen his knowledge in Cytological Diagnosis.





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*Expand your training with us and you will see
how you advance in your daily practice”*

Cytology, which has already played a very important role in the diagnosis of cervical cancer, has now become a tool of excellence, provided it is in experienced hands and has technical tools that make it possible to obtain from a handful of cells, determining information on some functional characteristics of the tumor, as well as possible resistance to certain therapeutic drugs.

Cytology has developed its fields so much that today it is possible to perform immunohistochemical staining (immunocytochemistry), to know mutations or other specific genomic alterations, and also the status of biomarkers essential in cancer management. In these modules, we will comprehensively address the most important cytological details that allow the diagnosis of neoplasms in different organs and settings, as well as the different techniques used in obtaining cytological material.

Finally, we will address the role of the cytologist within the multidisciplinary cancer diagnostic and management team, his role in the design of new drugs and immunotherapy.

This Postgraduate Certificate in Cytological Diagnosis offers the possibility to specialize in this subject and will allow you to develop the competences, abilities and skills necessary for the performance of the profession, generating greater added value to your professional performance.

This online course is developed by medical professionals who have extensive experience in this pathology, and who provide students with their knowledge, experience and practical cases that give this course the quality training it deserves.

This Postgraduate Certificate in Cytological Diagnosis contains the most complete and up-to-date scientific program on the market. The most outstanding characteristics of the diploma are:

- ♦ The development of practical cases presented by experts in Cytological Diagnosis.
- ♦ The graphic, schematic, and eminently practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice.
- ♦ The latest news on Cytological Diagnosis.
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning.
- ♦ With special emphasis on innovative methodologies in Cytological diagnosis.
- ♦ 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.



Cytology is an important tool in cancer diagnosis, provided it is in experienced hands"

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This diploma course may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Cytological Diagnosis, you will obtain a Postgraduate Certificate issued by TECH Universidad Tecnológica".

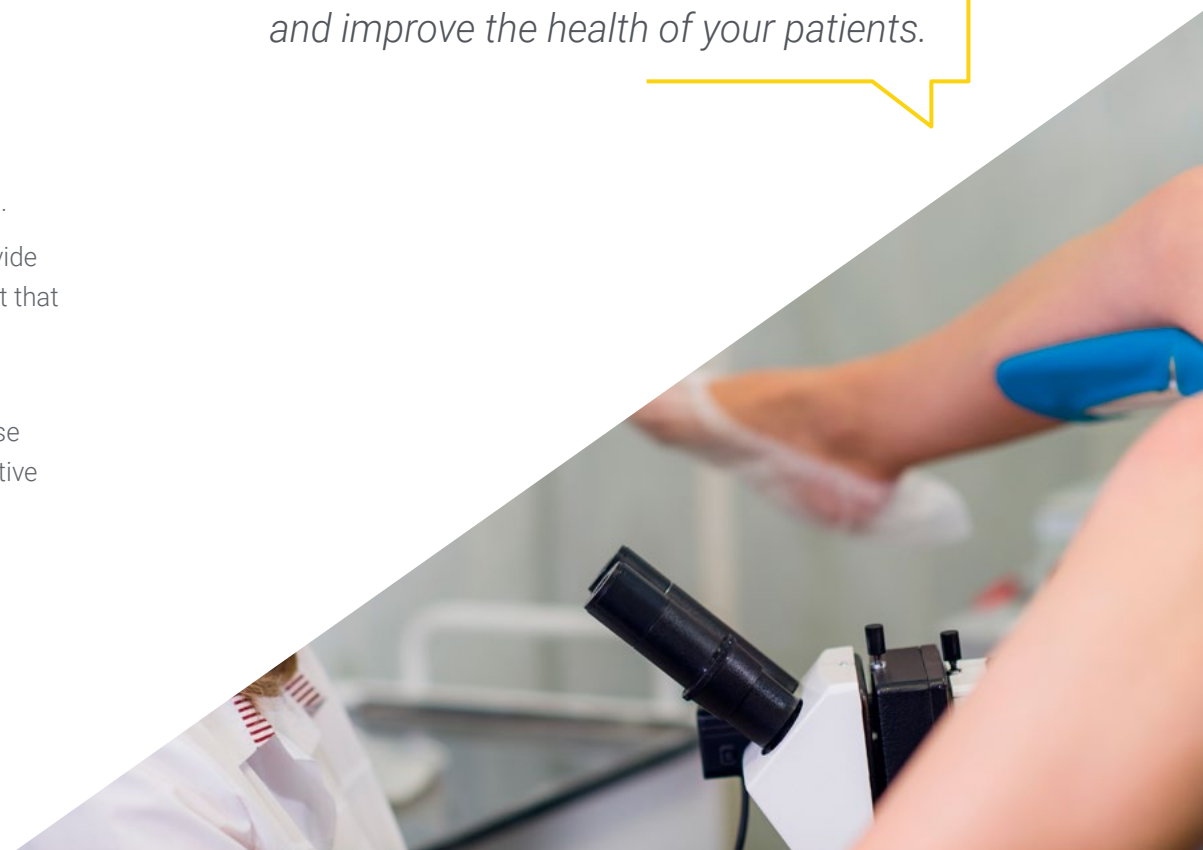
Its teaching staff includes professionals belonging to the field of Cytological Diagnostics, who bring to this training the experience of their work, in addition to recognized specialists belonging to prestigious reference societies and universities.

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 an immersive training program designed to train in real situations.

This program's design is based on problem-based learning, by means of which the professional must try to solve the different professional practice situations that arise during the diploma. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned experts in the field of cytological diagnostics with extensive medical experience.

Enhance your professional performance and improve your patients' quality of life.

Take the opportunity to learn about the latest advances in Cytological Diagnosis and improve the health of your patients.



02 Objectives

The online Postgraduate Certificate in Cytological Diagnosis is oriented to facilitate the performance of the professional dedicated to medicine with the latest advances and newest treatments in the sector.



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This Postgraduate Certificate is designed for you to update your knowledge in Cytological Diagnosis, with the use of the latest medical technology and scientific advances to contribute to promote the health and quality of life of patients"



General Objective

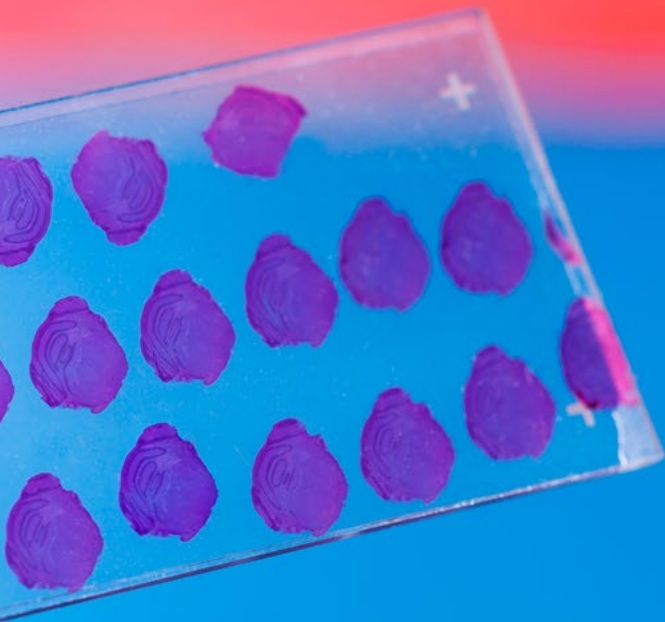
- ♦ The main goal of this training in Cytological Diagnosis is to update the professional's knowledge on this subject, as well as the most cutting-edge treatments and advances that are saving the lives of women affected by this disease.



Specific Objectives

- ♦ Recognize the characteristics of malignant neoplasms, their classification according to their histogenesis, as well as aspects related to their biological behavior.
- ♦ Acquire up-to-date knowledge on cancer epidemiological data worldwide.
- ♦ Learn about screening methods in at-risk populations to diagnose cancerous lesions early.
- ♦ Recognize the environmental and occupational factors (mutagenic agents) that are directly and indirectly involved in cancer, and the carcinogenic capacity of some toxic substances found in food.
- ♦ Relate DNA AND RNA viruses known to cause cancer in humans.
- ♦ Expose the mechanisms by which viruses are able to subjugate the normal activity of host cytoplasmic proteins, affecting key points in the control of the cell cycle, cell growth and differentiation, causing severe alterations in cell growth and cancer development.





- ◆ Recognize the role of *H. pylori* bacteria in the pathogenesis of gastric cancer.
- ◆ Understand cancer as a genetic disease resulting from mutations that accumulate in genes that are critical for the growth and development of somatic cells.
- ◆ Describe the genes associated with cancer, and the importance of DNA analysis to identify individuals, detect predisposing gene polymorphisms, analyze mutations, and establish the diagnosis of cancer as a genetic disease.
- ◆ Recognize the susceptibility genes involved in breast, lung, thyroid, colon, skin, bone, pancreatic, and neuroblastoma cancers, and by what mechanism they participate in tumorigenesis.
- ◆ Know the symptoms and signs that are most frequently related to cancer, as well as the different systems for the staging of tumor disease and their importance.
- ◆ Know the techniques of aspiration cytology of superficial and deep organs. Indications, limitations, and complications
- ◆ Know the cytologic patterns of malignancy, their differential diagnosis.
- ◆ Role of cytology in the clinical, therapeutic, and research context in oncopathology

03

Course Management

The program includes in its teaching staff reference experts in Cytological Diagnosis who bring to this training the experience of their work. In addition, other experts of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary way.





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Learn about the latest advances in Cytological Diagnostic procedures from the leading experts in the field"

International guest conductor

With more than 4 decades of professional career in the area of Pathology, Dr. Ignacio Wistuba is considered an international reference in this complex medical field. This prestigious researcher leads the Department of Translational Molecular Pathology at MD Anderson Cancer Center. He is also Director of the Khalifa Institute for Cancer Personalization, linked to the University of Texas.

In parallel, he directs the Thoracic Molecular Pathology Laboratory, the SPORE Lung Tissue Bank and the Institutional Tissue Bank. In turn, he is Director of the Biorepository and Pathology Core Network at the Eastern Cooperative Oncology Group, in conjunction with the American College of Radiology Imaging Network (ECOG-ACRIN).

One of the main lines of work of this pathologist in recent years has been Genomic and Precision Medicine. His multiple investigations in this field have allowed him to address the origin and complexities of different types of tumors, their incidence and their relationship with specific characteristics of the DNA of individuals. Specifically, he has delved into these issues in relation to lung neoplasms.

On the other hand, Wistuba maintains active research collaborations with other specialists from different parts of the world. An example of this is his participation in an exploratory analysis of cytokine levels in pleural fluid associated with immunotherapeutic protocols with the University for Development in Chile. He is also a member of global teams that, orchestrated by the Australian Royal Prince Alfred Hospital, have investigated different predictive biomarkers of lung cancer.

Likewise, the pathologist has sustained a continuous education since his initial studies in distinguished Chilean universities. Proof of this are his postdoctoral research internships in renowned institutions such as the Southwestern Medical Center and the Simmons Cancer Center in Dallas.



Dr. Wistuba, Ignacio

- ♦ President of the Department of Translational Molecular Pathology, MD Anderson Cancer Center
- ♦ Director of the Division of Pathology/Laboratory Medicine at MD Anderson Cancer Center
- ♦ Specialty Pathologist in the Department of Thoracic/Head and Neck Medical Oncology at the University of Texas Medical Center
- ♦ Director, UT-Lung SPORE Tissue Bank
- ♦ Lung Cancer Pathologist for the Lung Cancer Committee at Southwestern Oncology Group (SWOG)
- ♦ Principal Investigator on several studies conducted by the Cancer Prevention and Research Institute of Texas
- ♦ Principal Investigator of the Translational Genomics and Precision Cancer Medicine Training Program at NIH/NCI
- ♦ Postdoctoral Fellow at the Hamon Center for Therapeutic Oncology Research Center
- ♦ Postdoctoral Fellow at Southwestern Medical Center and Simmons Cancer Center

“

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

Management



Dr. Rey Nodar, Severino

- ◆ Head of the Anatomy Pathology Department at Manises University Hospital, Synlab Pathology Europe. Valencia, Spain.
- ◆ President of FORESC and FEBIP (Foundation for Sciences and Research USA/ Spanish Foundation for Training in Biomedical Sciences and Oncologic Pathology).
- ◆ Doctor Honoris Causa 2012 at Bircham International University, USA.
- ◆ Chief Editor of Journal of Cancer and Tumor international.
- ◆ Member of the Editorial Board of 6 international journals (topics related to oncopathology).
- ◆ Author: Glands Thyroid Pathology. Ed. Bubok 2012 y Endocrine Pathology. Text and Atlas. Ed. EdStudios, Spain, 2018
- ◆ Member of the New York Academy of Sciences (Sciences Academy of NY), 2011
- ◆ Integrand of the Power List 2019

Professors

Dr. Lozano, María Dolores

- ♦ Specialist in Anatomy and Pathology
- ♦ Head of Female Anatomy Service, of Navarra University Clinical symptoms

Dr. Aldecoa Anzorregui, Iban

- ♦ Specialist in Anatomy and Pathology Barcelona Clinical Hospital
- ♦ Neuropathology Expert

Lic. Ballester Lozano, Gabriel

- ♦ Molecular Biologist at Vinalopó Hospital Ribera Salud Group

Dr. Barbella, Rosa

- ♦ Anatomopathologist attached to the Anatomy and Pathology Service at Albacete General Hospital. Resident tutor. Faculty of Medicine, Castilla La Mancha University. Expert in breast pathology

Dr. Buendía Alcaraz, Ana

- ♦ Female Anatomy
- ♦ Arcos del Mar Menor University Hospital
- ♦ (San Javier, Murcia)"

Professor. Dr. Cuatrecasas, Miriam

- ♦ Specialist in Anatomy and Pathology Barcelona Clinical Hospital
- ♦ Expert and Consultant in Gastrointestinal Pathology
- ♦ Coordinator of the Digestive Pathology SEAP working group.
- ♦ Coordinator of the Catalan Network of Tumor Banks (XBTC) and the Tumor Bank Clinic Hospital-IDIBAPS.
- ♦ IDIBAPS researcher

Dr. Camarasa, Natalia

- ♦ Specialist in Anatomy and Pathology at Castellón University Hospital, Valencia, Spain.
- ♦ Expert in hemato-lymphoid pathology

Dr. Ángeles Franco, Tania María

- ♦ Head of Radiodiagnosis Service, Torreveja and Vinalopó University Hospitals.
- ♦ Radiology Professor at UCAM.
- ♦ President of the Spanish Society of Radiodiagnosis and former Chief of Service of the Fundación Jiménez Díaz..

Dr. García Yllán, Verónica

- ♦ Specialist in Pathological Anatomy and Master in Medicine and Education

Dr. Labiano Miravalles, Tania

- ♦ Specialist in Anatomy and Pathology, Pamplona Hospital Complex, Navarra, Spain.
- ♦ Cytology Expert

Dr. Fernández, Iván

- ♦ Neuropathologist of the Pathology Anatomy Service at Asturias Central University Hospital. Oviedo Spain.

Professor. Dr. Machado, Isidro

- ♦ Specialist in Pathological Anatomy, Valencian Institute of Oncology (IVO), Valencia.
- ♦ Expert in Soft Tissue Pathology and Sarcomas

Dr. Ortiz Reina, Sebastián

- ♦ Specialist in Pathological Anatomy.
- ♦ University Specialist in Electron Microscopy at Madrid Complutense University. University Specialist in Dermatopathology at Alcalá de Henares University. Associate Professor of Health Sciences in the subject of Pathological Anatomy at Madrid Complutense University.
- ♦ Lecturer in Histology and Cell Biology at the University School of Nursing at the Murcia University.
- ♦ University professor of practices for students of the career of Medicine at Murcia Catholic University.
- ♦ Tutor of residents of Anatomy Pathology of the University Complex of Cartagena

Dr. Ribalta, Teresa

- ♦ Anatomy and Pathology Professor, Barcelona University
- ♦ Expert in Neuropathology, currently Pediatric Pathology.
- ♦ Head of the Anatomy and Pathology Department, Sant Joan de Déu Hospital, Barcelona, Spain





Dr. Rojas, Nohelia

- ♦ Specialist in Anatomy Pathology, Vinalopó and Torrevieja University Hospitals.

Lic. Rubio Fornés, Abel

- ♦ Mathematician. Postgraduate Diploma in Statistics and Operations Research. University of Valencia

Lic. Sansano Botella, Magdalena

- ♦ Degree in Criminology at the Alicante University.
- ♦ Technician specializing in Anatomy and Pathology, Alicante University.

Dr. Serrano Jiménez, María

- ♦ Pathological Anatomy Physician
- ♦ Vinalopó Hospital

Dr. Rojas, Nohelia

- ♦ Specialist in Anatomy Pathology, Vinalopó and Torrevieja University Hospitals.

Dr. Soto, Sara

- ♦ Faculty Specialist. Torrevieja and Vinalopó University Hospitals

Dr. Sua Villega MD, Luz Fernanda

- ♦ Specialist in Anatomy and Clinical Pathology, Fundación Hospital Valle de Lili, Cali, Colombia.
- ♦ D. in Biomedical Sciences with emphasis in Solid Tumor Genomics.
- ♦ Medical Leader of the Special Hematology and Hemostasis Laboratory at Valle de Lili Hospital.

04

Structure and Content

The contents structure has been designed by the best professionals in Cytological Diagnosis, with a wide trajectory and recognized prestige in the profession, supported by the volume of cases reviewed, studied and diagnosed, and with a wide command of the new technologies applied to anatomopathological diagnosis.



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This Postgraduate Certificate in Cytological Diagnosis contains the most complete and up-to-date scientific program on the market”

Module 1. Cancer General Aspects. Risk Factors

1.1. Introduction.

1.1.1. Overview of Malignant Neoplasms.

1.1.1.1. Nomenclature.

1.1.1.2. Features.

1.1.1.3. How Metastases Spread.

1.1.1.4. Prognostic Factors

1.1.2. Epidemiology of Cancer.

1.1.2.1. Incidence.

1.1.2.2. Prevalence.

1.1.2.3. Geographical Distribution

1.1.2.4. Risk Factors.

1.1.2.5. Prevention.

1.1.2.6. Early Diagnosis.

1.1.3. Mutagenic Agents.

1.1.3.1. Environmental.

1.1.3.2. Workplace.

1.1.3.3. Toxic Substances in Food.

1.1.4. Biological Agents and Cancer.

1.1.4.1. RNA Virus.

1.1.4.2. DNA Virus.

1.1.4.3. H. pylori.

1.1.5. Genetic Predisposition.

1.1.5.1. Genes Linked to Cancer.

1.1.5.2. Susceptibility Genes.

1.1.5.2.1. Breast Tumors.

1.1.5.2.2. Lung Tumors.

1.1.5.2.3. Thyroid Tumors.

1.1.5.2.4. Colon Tumors.

1.1.5.2.5. Skin Tumors.

1.1.5.2.6. Bone Tumors.

1.1.5.2.7. Pancreas Tumors.

1.1.5.2.8. Neuroblastoma.

1.1.6. Clinical Aspects of Malignant Neoplasms.

1.1.6.1. Introduction.

1.1.6.2. Basic Principles.

1.1.7. Staging of neoplastic disease.

1.1.7.1. Introduction.

1.1.7.2. Update.

Module 2.

2.1. Introduction to Cytopathology (ART and SCIENCE).

2.1.1. Historical Perspective.

2.1.2. Practical Concepts.

2.1.2.1. Management

2.1.2.2. Staining.

2.1.3. Basic Concepts Cytomorphology.

2.2. Exfoliative Cytology.

2.2.1. Gynecologic Cytology - Bethesda System.

2.2.2. Urine Cytology - Paris System.

2.2.3. Bodily Fluids Cytology.

2.3. SUPERFICIAL Fine Needle Aspiration Puncture.

2.3.1. Introduction.

2.3.1.1. Practical Aspects.

2.3.2. Thyroid and Salivary Gland FNA.

2.3.3. Breast FNA.

2.3.4. Soft Tissue and Bone FNA.

2.4. DEEP Fine Needle Aspiration Puncture.

2.4.1. Introduction - ROSE (Rapid on site evaluation).

2.4.1.1. Lung and Mediastinal FNA.

2.4.1.2. Pancreas FNA.

2.4.1.3. Lymph Node FNA.



- 2.5. Differential Diagnosis in Cytopathology.
 - 2.5.1. Main Cytomorphological Patterns.
 - 2.5.2. Immunocytochemistry.
 - 2.5.3. Molecular Cytopathology.
- 2.6. The Role of Cytopathologists in the Treatment of Cancer.
 - 2.6.1. Study of Biomarkers in Cytological Samples.
 - 2.6.2. Immunotherapy and the Role of Cytopathology.
 - 2.6.3. Challenges and New Perspectives.

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

05

Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used 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.



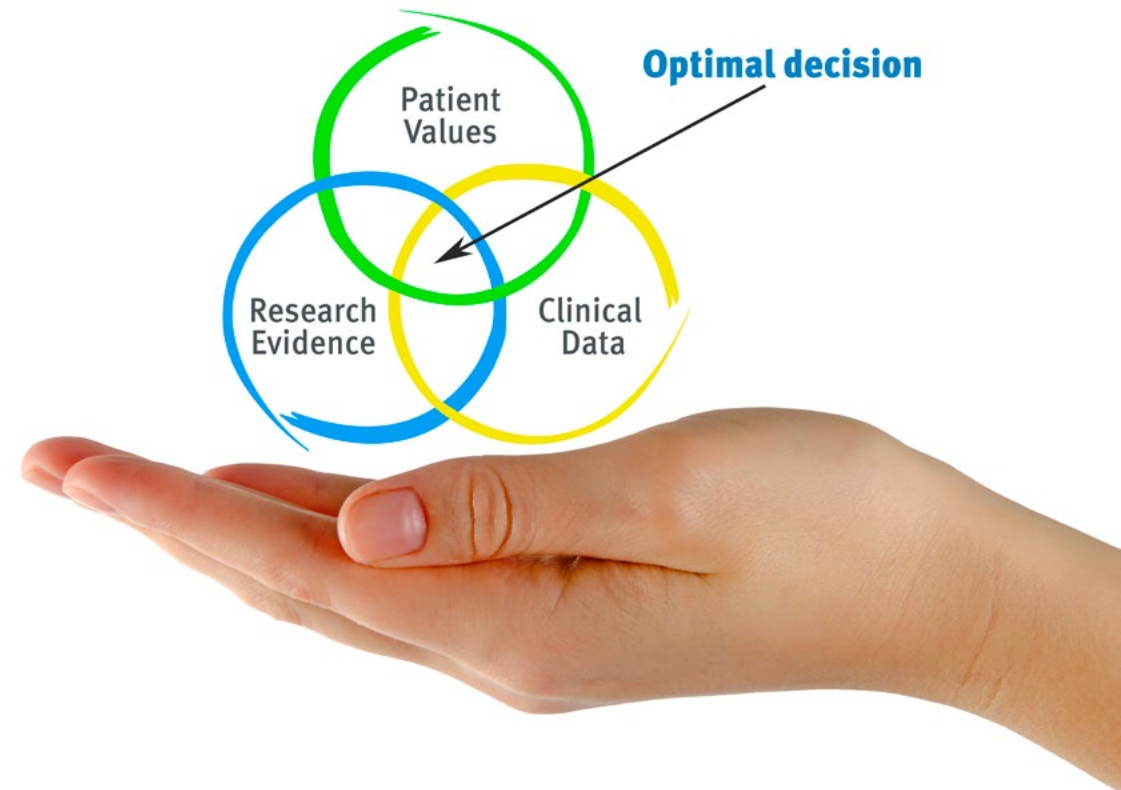
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Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

At TECH we use the Case Method

In a given situation, what would you do? Throughout the program you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you can 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 potential 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 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 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.

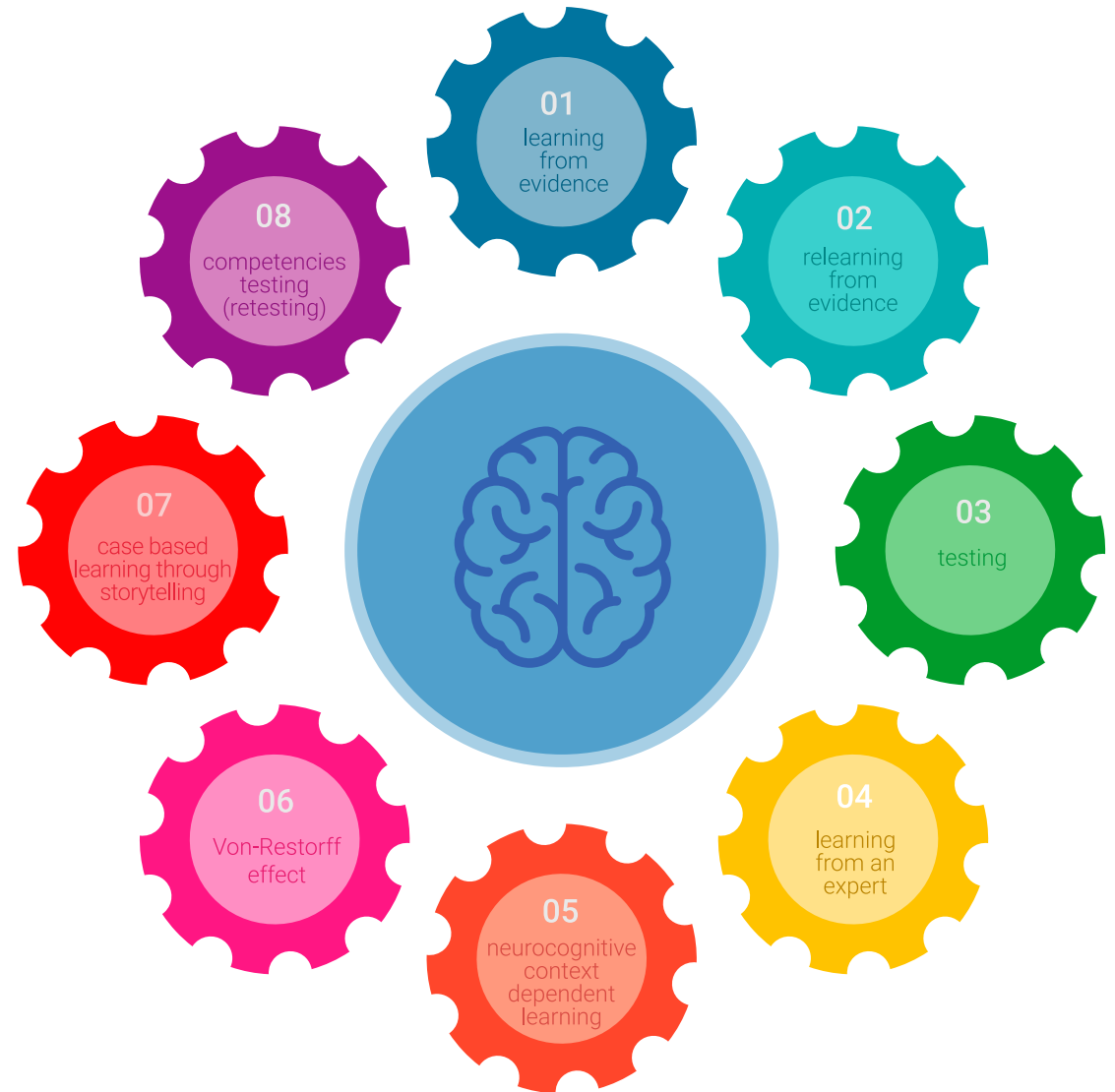


Re-Learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

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.

The physician 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 Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 250,000 physicians with unprecedented success, in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Re-learning will allow you to learn with less effort and better performance, involving you more in your training, 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 (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you 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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Latest 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 this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



Interactive Summaries

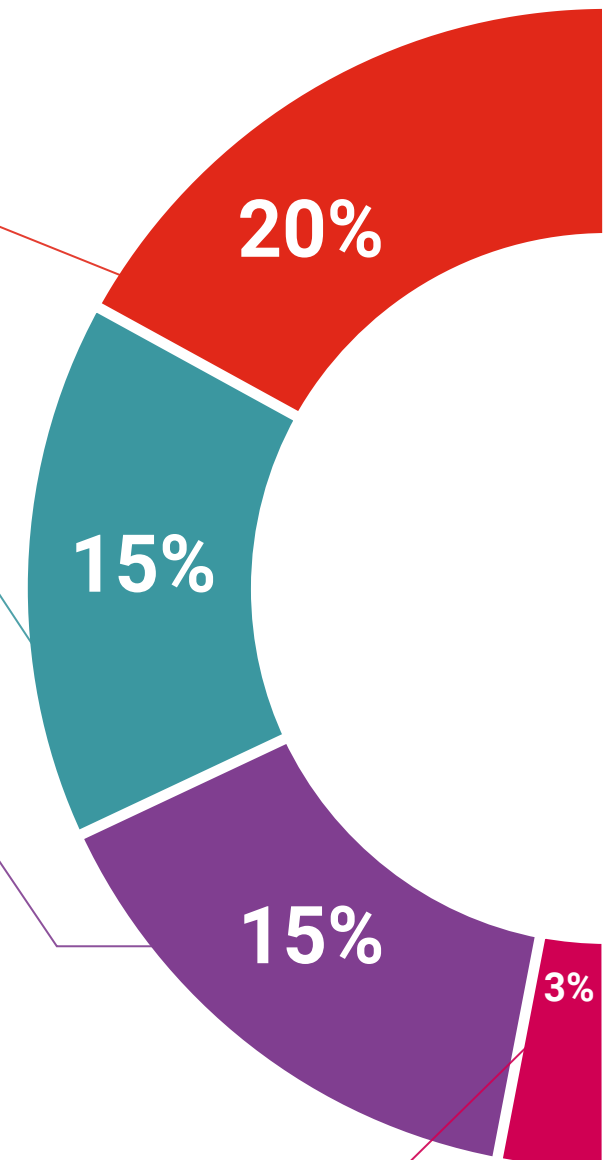
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

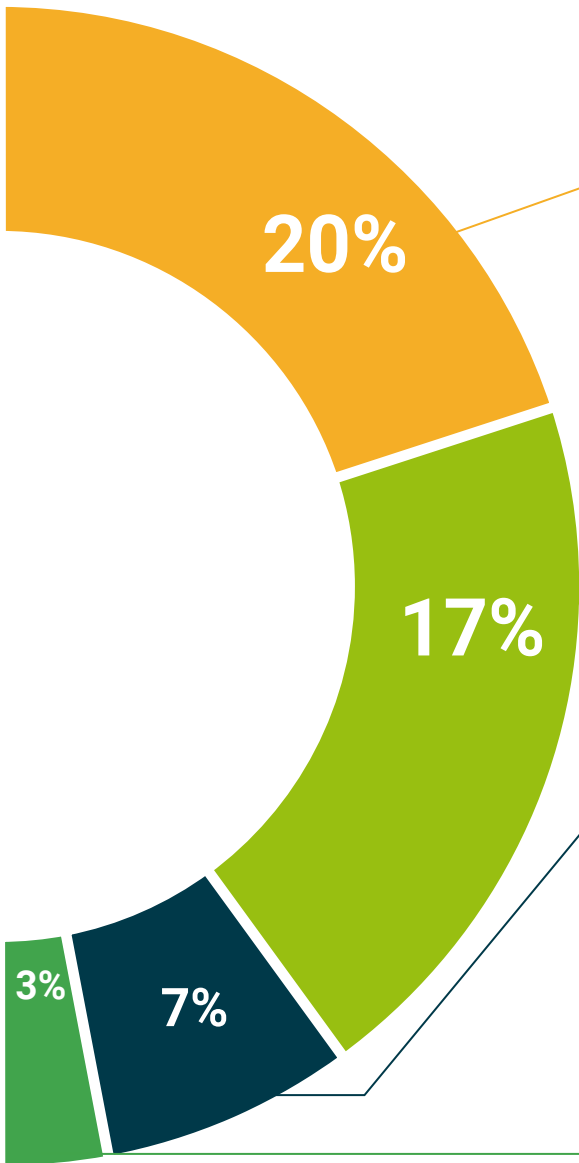
This unique training system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... in our virtual library you will have access to everything you need to complete your training.





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 & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your 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 our future difficult decisions.



Quick Action Guides

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06 Certificate

This **Postgraduate Certificate in Cytological Diagnosis** guarantees you, in addition to the most rigorous and up-to-date training, the access to a Postgraduate Certificate issued by **TECH Technological University**.



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Successfully complete this training and receive your university degree without travel or laborious paperwork”

This **Postgraduate Certificate in Cytological Diagnosis** 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, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professionals career evaluation committees.

Title: **Postgraduate Certificate in Cytological Diagnosis**

ECTS: 8

Official Number of Hours: **200**



health future
confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present quality
development language
virtual classroom



Postgraduate Certificate

Cytological Diagnosis

Course Modality: Online

Duration: 2 months.

Certificate: TECH Technological University

8 ECTS Credits

Teaching Hours: 200 hours.

Postgraduate Certificate

Cytological Diagnosis

