

# Postgraduate Diploma

Oncologic Diagnosis.  
Technological Advances  
and Big Data





## Postgraduate Diploma Oncologic Diagnosis. Technological Advances and Big Data

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-oncologic-diagnosis-technological-advances-big-data](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-oncologic-diagnosis-technological-advances-big-data)

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01

# Introduction

Technological advances have burst into the medical field with the aim of improving and gaining efficiency in diagnostics and treatments to obtain high quality medical results. Access to Big Data platforms, which have a large amount of analytical and clinical data pertaining to the population affected by cancer, allows oncology professionals to gain a closer understanding of the disease, as well as more exhaustive and accurate diagnosis of the patient.



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*This training will generate a sense of security in the performance of medical practice, which will help you grow personally and professionally”*



Access to Big Data platforms, which have a large amount of analytical and clinical data pertaining to the population affected by cancer, allows oncology professionals to gain a closer understanding of the disease, as well as more exhaustive and accurate diagnosis of the patient. This great technological revolution in oncological medicine represents a great opportunity in cancer research and treatment, thanks to the fact that physicians have access to a large amount of data and analysis worldwide.

Professionals in the oncology field need to constantly update their knowledge related to cancer treatments in order to be able to offer patients the most suitable treatment based on their real needs.

This Postgraduate Diploma in oncological diagnostics. Technological advances and Big Data allow us to gain in-depth knowledge about the effective techniques and resources being used for oncological diagnosis. These include cytology and radiology.

Cytology diagnosis has evolved a lot in recent times, making it possible to perform immunohistochemical staining (immunocytochemistry), mutations or other specific genomic alterations, and also to determine the status of biomarkers essential in cancer management. Radiology, for its part, remains the essential tool for diagnosing more than 85% of oncological diseases.

The program has been designed and developed by oncology specialists ranked among the best in medical excellence, who have provided students with the most advanced knowledge, experience and practical cases to create a program following the highest quality criteria available on the market.

This **Postgraduate Diploma in Oncologic Diagnosis. Technological Advances and Big Data** contains the most complete and up-to-date scientific program on the market. The most important features of the program include:

- ♦ Development of more than 75 case studies presented by experts in oncological diagnostics. Technological Advances and Big Data.
- ♦ 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.
- ♦ New developments in oncologic diagnosis. Technological Advances and Big Data.
- ♦ It contains practical exercises where the self-evaluation process can be carried out to improve learning.
- ♦ With special emphasis on innovative methodologies in oncological diagnosis. Technological Advances and Big Data.
- ♦ All of this will be complemented by 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.

“Update your knowledge with the Postgraduate Diploma in Oncological Diagnosis program. Technological Advances and Big Data”

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*This Postgraduate Diploma may be the best investment you can make in selecting a refresher program for two reasons: in addition to updating your knowledge in Diagnostic Oncology. Technological Advances and Big Data, you will obtain a Postgraduate Diploma issued by TECH Global University"*

Its teaching staff includes professionals belonging to the field of oncological diagnosis. Technological advances and Big Data, who bring to this training the experience of their work, as well as recognized specialists belonging to 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 training program to train in real situations.

This program is designed around Problem Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the course. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned experts in the field of oncological diagnosis. Technological advances and Big Data. and with great medical expertise.

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

*Take the opportunity to learn about the latest advances in Oncological Diagnostics. Technological Advances and Big Data and improve the health of your patients.*

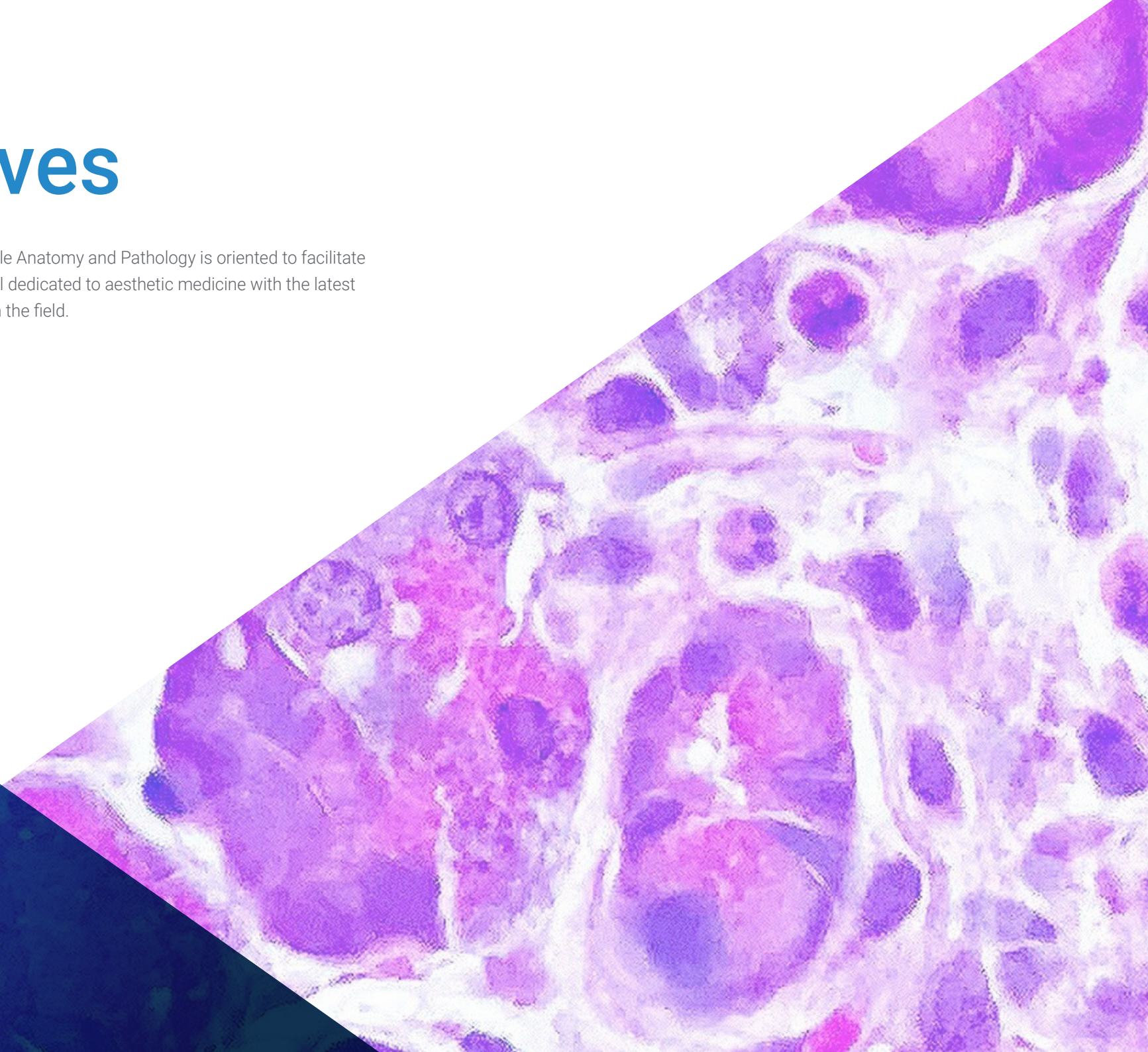




02

# Objectives

The Postgraduate Diploma in Female Anatomy and Pathology is oriented to facilitate the performance of the professional dedicated to aesthetic medicine with the latest advances and newest treatments in the field.





A microscopic image of tissue, likely a histological section, showing various cellular structures and nuclei. The image is rendered in a purple and white color scheme. It is positioned in the upper left quadrant of the page, partially overlapping a dark blue background that extends diagonally across the top right.

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*This Postgraduate Diploma is designed for you to update your knowledge in Oncological Diagnosis. Technological Advances and Big Data, with the use of the latest medical technology and scientific advances to help promote the health and quality of life of patients"*



## General Objective

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- ♦ The main goal of this training in Oncologic Diagnostics. Technological Advances and Big Data is to introduce the professional in the use and management of medical technology, Big Data that allow to obtain more effective medical data for the diagnosis of oncological disease.



## Specific Objectives

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- ♦ Recognize the characteristics of malignant neoplasms, their classification according a 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 phases of the cell cycle, the critical control points, as well as the genes involved in its regulation.
- ♦ Recognize the important role of cell cycle checkpoints and DNA repair systems in maintaining the fidelity and integrity of genome replication and repair, and regulating cell cycle dynamics.
- ♦ Explain the positive and negative feedback regulatory processes that contribute to cell cycle progression, and the significance of negative controls on cell cycle progression that are present during development, differentiation, senescence, and cell death, which play an important role in preventing tumorigenesis.
- ♦ Identify the difference in gene expression between normal tissue and tumor tissue.
- ♦ Know the stages involved in the transformation of a normal cell to a malignant cell.
- ♦ Recognize the malignant phenotype as the result of a characteristic pattern of gene expression, alterations in the function of the human genome, leading to aberrant growth, dedifferentiation, invasion and metastasis.
- ♦ Characterize the different genes involved in cell cycle regulation (growth-promoting genes, growth-inhibiting genes, genes that regulate apoptosis and genes that repair damaged DNA), and the mutations that alter them.
- ♦ Explain the key role that oncogenes may play in the development of cancer by

directing mechanisms that lead to the development of neoplasms.

- ♦ Know tumor suppressor genes as cytoplasmic components capable of reversing the tumor phenotype; proteins that control the cell cycle, proliferation, and differentiation.
- ♦ Identify epigenetic aberrations (DNA methylation with silencing of gene expression, and histone modifications that can enhance or dampen expression), which contribute to the malignant properties of cells.
- ♦ Recognize the role of epigenetic changes in malignant phenotype, including gene expression, control of differentiation, and sensitivity and resistance to anticancer therapy.
- ♦ Know the genes and proteins associated with malignant diseases and their utility as tumor markers to define a particular entity, its diagnosis, staging, prognosis, and screening in the population.
- ♦ Know and apply the different technologies used to analyze the gene expression profile of neoplasms to identify clinical and biological aspects that are difficult to determine by histopathological examination. Its principles, advantages, and disadvantages.
- ♦ Explain the importance of gene expression profiling for the application of different treatment protocols and the response to them among histologically similar tumors.
- ♦ Recognize the importance of gene expression profiling in the new classifications of malignant tumors associated with prognosis and response to treatment.
- ♦ 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
- ♦ Learn about aspects of the radiological diagnosis of the most common solid tumors in the body

- ♦ Learn about radiological techniques that are used in the functional study of malignant tumors
- ♦ Learn about the uses, contraindications, and complications of invasive diagnostic techniques performed by radiologists
- ♦ Know how to detect which radiological alterations are derived from antitumor treatment
- ♦ Possess detailed knowledge of the radiological techniques for monitoring tumor pathology
- ♦ Know the main problems in the management and structuring of data in pathology.
- ♦ Introduction to the fundamentals of Big Data.
- ♦ Identify opportunities for research and problem solving through Big Data, know its main utilities and limits.
- ♦ Know the main methodologies most used in Big Data.
- ♦ Know the main cloud tools for Big Data management and analysis.



03

# Course Management

The program includes in its teaching staff reference experts in Oncologic Diagnosis. Technological Advances and Big Data who pour into 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 Diagnosis  
oncology from leading professionals"  
Technological Advances and Big Data"*

## 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

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- ♦ 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
- ♦ Pathologist at the Catholic University of Chile
- ♦ Medical Graduate at Universidad Austral de Chile
- ♦ Member of:
  - ♦ Academy of American and Canadian Pathologists
  - ♦ Society for Cancer Immunotherapy
  - ♦ American Society of Clinical Oncology
  - ♦ American Society for Investigative Pathology
  - ♦ American Association for Cancer Research
  - ♦ Association for Molecular Pathology
  - ♦ Society for Pulmonary Pathology

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

## Management



### Dr. Rey Nodar, Severino

- Head of the pathological anatomy service at University Hospital Manises, Synlab 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.
- Member of The Pathologist's 2019 Power List where recognition is given to the top 100 pioneers in the industry. (The Power List 2019 ) <https://thepathologist.com/power-list/2019>

## Professors

### **Dr. Abreu Marrero, Alette Rosa**

- ♦ Imaging Specialist at Maputo Private Hospital. Lenmed
- ♦ Professor of Radiology Institute at Camaguey's Medical Sciences Institute..

### **Lic. Ballester Lozano, Gabriel**

- ♦ Anatomic Pathology Service.
- ♦ Molecular Biologist at Vinalopó Hospital
- ♦ Ribera Salud Group.

### **Dr. García Yllán, Verónica**

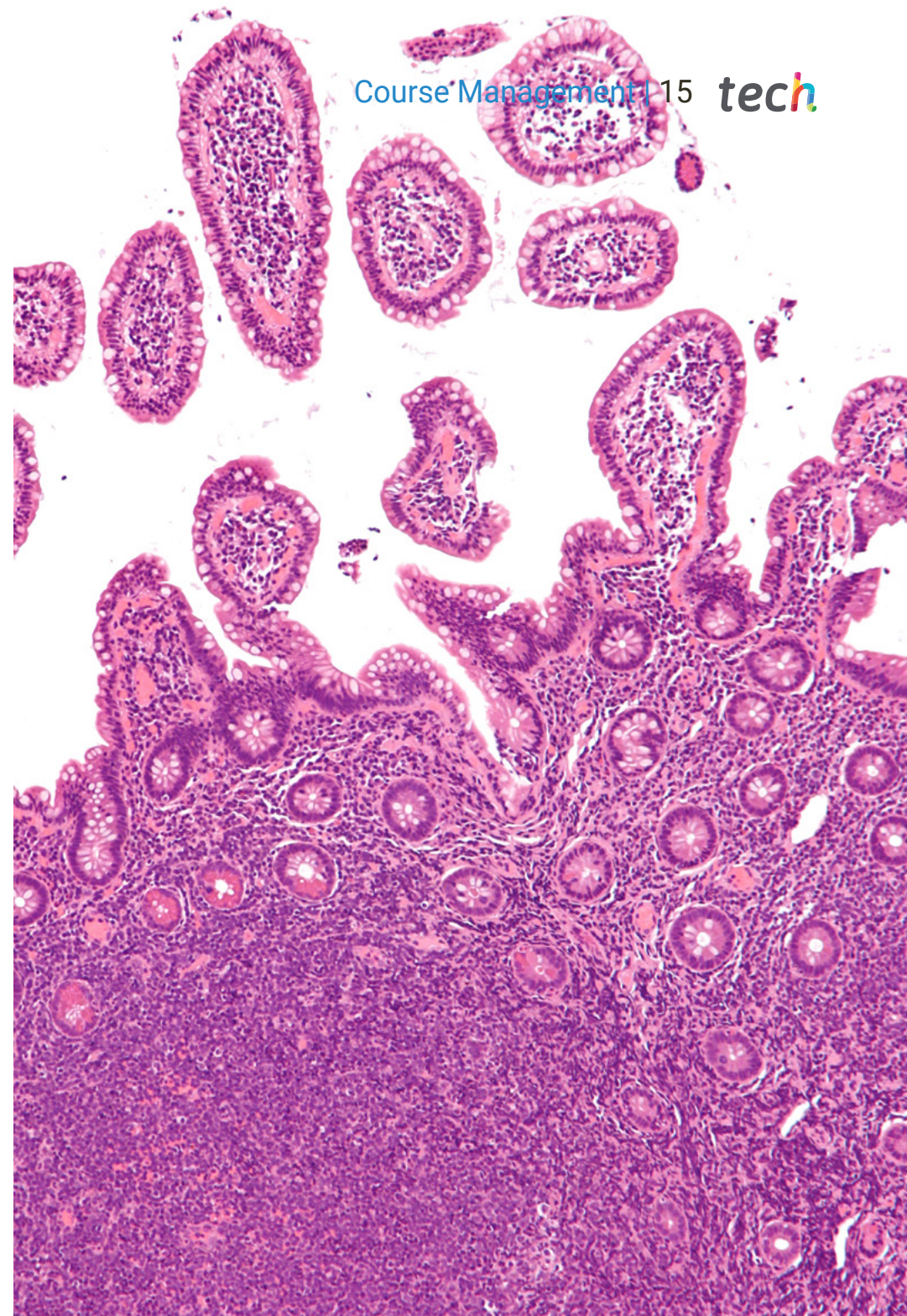
- ♦ Specialist in Pathological Anatomy and Master in Medicine and Education.
- ♦ Inscanner in Medical Service.

### **Dr. Labiano Miravalles, Tania**

- ♦ Cytology Expert.
- ♦ Specialist in Pathological Anatomy.
- ♦ Pamplona Hospital Complex, Navarra.

### **Lic. Rubio Fornés, Abel**

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





04

# Structure and Content

The contents structure has been designed by a team of the best professionals in the field of pathological anatomic anatomical pathology with a long history and recognized prestige in the profession, backed by the volume of cases reviewed, studied and diagnosed, and with extensive knowledge of new technologies applied to anatomopathological diagnosis.





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*It includes clinical cases to bring the development of the program as close as possible to the reality of medical practice"*

## Module 1. Cancer General Aspects. Risk factors

- 1.1. Introduction.
- 1.2. Overview of Malignant Neoplasms.
  - 1.2.1. Nomenclature.
  - 1.2.2. Features.
  - 1.2.3. How Metastases Spread.
  - 1.2.4. Prognostic Factors
- 1.3. Epidemiology of Cancer.
  - 1.3.1. Incidence.
  - 1.3.2. Prevalence.
  - 1.3.3. Geographical Distribution
  - 1.3.4. Risk Factors.
  - 1.3.5. Prevention.
  - 1.3.6. Early Diagnosis.
- 1.4. Mutagenic Agents.
  - 1.4.1. Environmental.
  - 1.4.2. Workplace.
  - 1.4.3. Toxic Substances in Food.
- 1.5. Biological Agents and Cancer.
  - 1.5.1. RNA Virus.
  - 1.5.2. DNA Virus.
  - 1.5.3. H. pylori.
- 1.6. Genetic Predisposition.
  - 1.6.1. Genes Linked to Cancer.
  - 1.6.2. Susceptibility Genes.
    - 1.6.2.1. Breast Tumors.
    - 1.6.2.2. Lung Tumors.
    - 1.6.2.3. Thyroid Tumors.
    - 1.6.2.4. Colon Tumors.
    - 1.6.2.5. Skin Tumors.
    - 1.6.2.6. Bone Tumors.
    - 1.6.2.7. Pancreas Tumors.
    - 1.6.2.8. Neuroblastoma.

- 1.7. Clinical Aspects of Malignant Neoplasms.
  - 1.7.1. Introduction.
- 1.8. Neoplastic Disease Staging.
  - 1.8.1. Update.

## Module 2. Biological Basis of Cancer

- 2.1. Introduction to the Molecular Basis of Cancer.
- 2.2. Genes and the Genome.
  - 2.2.1. The Main Cell Signaling Pathways.
  - 2.2.2. Cell Growth and Proliferation.
  - 2.2.3. Cell Death. Necrosis and Apoptosis.
- 2.3. Mutations.
  - 2.3.1. Types of Mutations. Frameshift; Indels, Translocations, SNV; Missense, Nonsense, CNV, Driver vs. Passenger.
  - 2.3.2. Mutagens.
    - 2.3.2.1. Biological Agents and Cancer.
  - 2.3.3. Mutation Repair Mechanisms.
  - 2.3.4. Mutations with Pathological and Non-Pathological Variants.
- 2.4. Major Advances in Precision Medicine
  - 2.4.1. Tumor Biomarkers.
  - 2.4.2. Oncogenes and Tumor Suppressor Genes.
  - 2.4.3. Diagnostic Biomarkers.
    - 2.4.3.1. Resistance.
    - 2.4.3.2. Prognosis.
    - 2.4.3.3. Pharmaco-Genomics.
  - 2.4.4. Cancer Epigenetics.
- 2.5. Main Techniques in the Molecular Biology of Cancer.
  - 2.5.1. Cytogenetics and FISH (Fluorescence In Situ Hybridization).
  - 2.5.2. DNA Extract Quality.
  - 2.5.3. Liquid Biopsy.
  - 2.5.4. PCR as a Basic Molecular Tool.
  - 2.5.5. Sequencing, NGS.



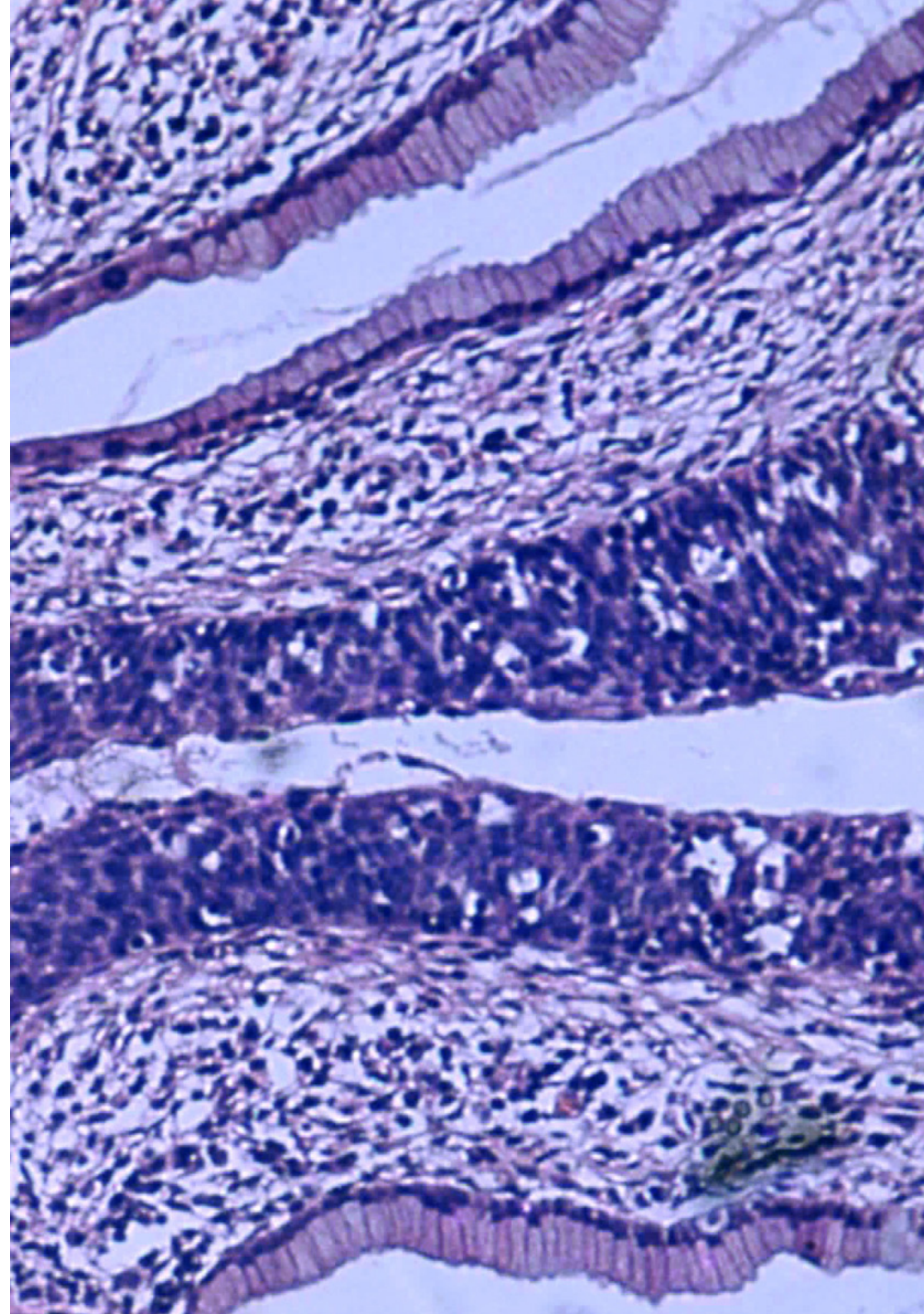
**Module 3. Cytological Diagnosis of ES Malignant Lesions**

- 3.1. Introduction to Cytopathology (ART and SCIENCE).
  - 3.1.1. Historical Perspective.
  - 3.1.2. Practical Concepts.
    - 3.1.2.1. Management
    - 3.1.2.2. Staining.
  - 3.1.3. Basic Concepts Cytomorphology.
- 3.2. Exfoliative Cytology.
  - 3.2.1. Gynecologic Cytology - Bethesda System.
  - 3.2.2. Urine Cytology - Paris System.
  - 3.2.3. Bodily Fluids Cytology.
- 3.3. SUPERFICIAL Fine Needle Aspiration Puncture.
  - 3.3.1. Introduction.
    - 3.3.1.1. Practical Aspects.
  - 3.3.2. Thyroid and Salivary Gland FNA.
  - 3.3.3. Breast FNA.
  - 3.3.4. Soft Tissue and Bone FNA.
- 3.4. DEEP Fine Needle Aspiration Puncture.
  - 3.4.1. Introduction - ROSE (Rapid on site evaluation).
    - 3.4.1.1. Lung and Mediastinal FNA.
    - 3.4.1.2. Pancreas FNA.
    - 3.4.1.3. Lymph Node FNA.
- 3.5. Differential Diagnosis in Cytopathology.
  - 3.5.1. Main Cytomorphological Patterns.
  - 3.5.2. Immunocytochemistry.
  - 3.5.3. Molecular Cytopathology.
- 3.6. The Role of Cytopathologists in the Treatment of Cancer.
  - 3.6.1. Study of Biomarkers in Cytological Samples.
  - 3.6.2. Immunotherapy and the Role of Cytopathology.
  - 3.6.3. Challenges and New Perspectives.



## Module 4. Radiology and Pathology in Oncological Diagnosis

- 4.1. Diagnostic Imaging and Cancer Staging.
  - 4.1.1. Lung Neoplasia.
  - 4.1.2. Colorectal Neoplasia.
  - 4.1.3. Breast Neoplasia.
  - 4.1.4. Prostate Neoplasia.
  - 4.1.5. Gynecologic Neoplasia.
  - 4.1.6. Lymphoma.
  - 4.1.7. Melanoma.
  - 4.1.8. Other GI Tract Tumors.
  - 4.1.9. Hepatocarcinoma and Cholangiocarcinoma.
  - 4.1.10. Pancreas Tumors.
  - 4.1.11. Kidney Tumors.
  - 4.1.12. Thyroid Cancer.
  - 4.1.13. Brain Tumors.
- 4.2. Image-Guided FNA and CNB.
  - 4.2.1. Thyroid.
  - 4.2.2. Breast.
  - 4.2.3. Lung and Mediastinum.
  - 4.2.4. Liver and Abdominal Cavity.
  - 4.2.5. Prostate.
- 4.3. Follow up
  - 4.3.1. RECIST 1.1 and Chung.
  - 4.3.2. EASL, m-RECIST and RECICL.
  - 4.3.3. MacDonald and RANO Criteria.
  - 4.3.4. CHOI, MDA, and Lugano Criteria.
  - 4.3.5. Modified CHOI Criteria; SCAT and MASS.
  - 4.3.6. MET-RAD-P.
  - 4.3.7. PERCIST.
  - 4.3.8. Immunotherapy.
- 4.4. Treatment Complications.
  - 4.4.1. Oncologic Emergencies.
  - 4.4.2. Treatment Complications.



## Module 5. Big Data in Anatomical Pathology

- 5.1. Introduction to Big Data in Pathology.
  - 5.1.1. Introduction.
    - 5.1.1.1. Pathology and Big Data.
    - 5.1.1.2. Data Mining in Pathology.
    - 5.1.1.3. Big Data.
      - 5.1.1.3.1. The Fundamentals of Big Data.
      - 5.1.1.3.2. Types of Big Data.
        - 15.1.1.3.2.1 Relational.
        - 15.1.1.3.2.2 Non-Relational (SQL and NoSQL).
      - 5.1.1.3.3. Types of Data.
        - 5.1.1.1.3.3.1 Structured.
        - 15.1.1.3.3.2 Unstructured.
        - 15.1.1.3.2.3 Semi-Structured.
      - 5.1.1.3.4. The Limits of Big Data.
- 5.2. Great Opportunities and Uses of Big Data.
  - 5.2.1. Data Standardization and Digital Pathology.
  - 5.2.2. Personalized Medicine: Personalized Diagnostics and Therapies.
  - 5.2.3. Predictive Markers.
  - 5.2.4. Advances in Research Fields Such As: Genomics, Molecular Pathology Diagnostics, Proteomics, and Diagnostic Comparison.
- 5.3. Algorithms, Models and Methodologies used in Big Data.
  - 5.3.1. Architectures for Massively Parallel Processing.
  - 5.3.2. Modeling and Decision Trees.
  - 5.3.3. Machine Learning and Deep Learning.
  - 5.3.4. Neural Networks.
- 5.4. Big Data and Cloud Computing Technologies.
  - 5.4.1. Apache Hadoop.
  - 5.4.2. Working with NoSQL Databases.
    - 5.4.2.1. DynamoDB or Cassandra.
  - 5.4.3. Data Analysis.
    - 5.4.3.1. BigQuery.
    - 5.4.3.2. Infosphere Streams.
    - 5.4.3.3. Oracle Big Data Appliance.
- 5.5. Conclusions and Benefits of Big Data from a Pathology Point of View.
  - 5.5.1. Big Data Findings from a Pathology Point of View.
  - 5.5.2. Benefits.



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



05

# Methodology

This training program 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.



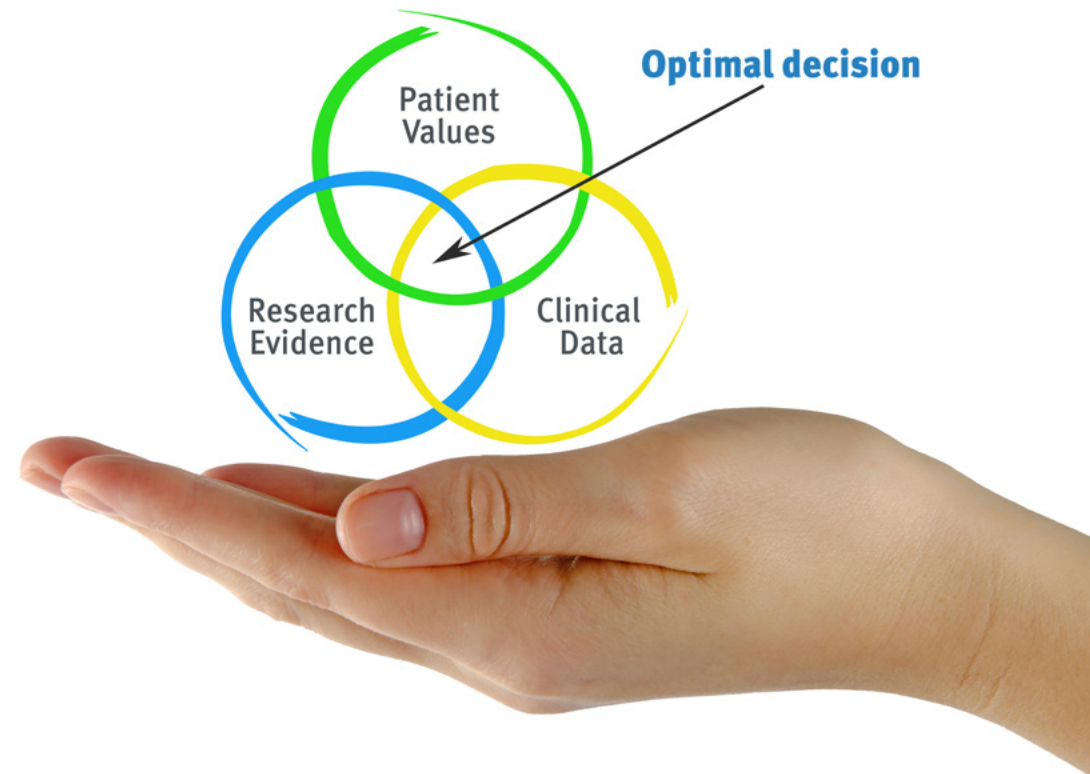
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization”*

## 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 professional medical 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 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 (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 Postgraduate Diploma have access to the best educational materials, prepared specifically for you:



### Study Material

After a complex production process, we transform the best content into high-quality educational and audiovisual multimedia. We select the best syllabus and make it available to you. Everything you need to acquire in-depth knowledge of a discipline, from A to Z. Lessons written and chosen by specialists in each of the disciplines.



### Surgical techniques and clinical procedures on video

We bring you closer to the latest techniques, to the latest scientific advances, to the forefront of medical news. 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.



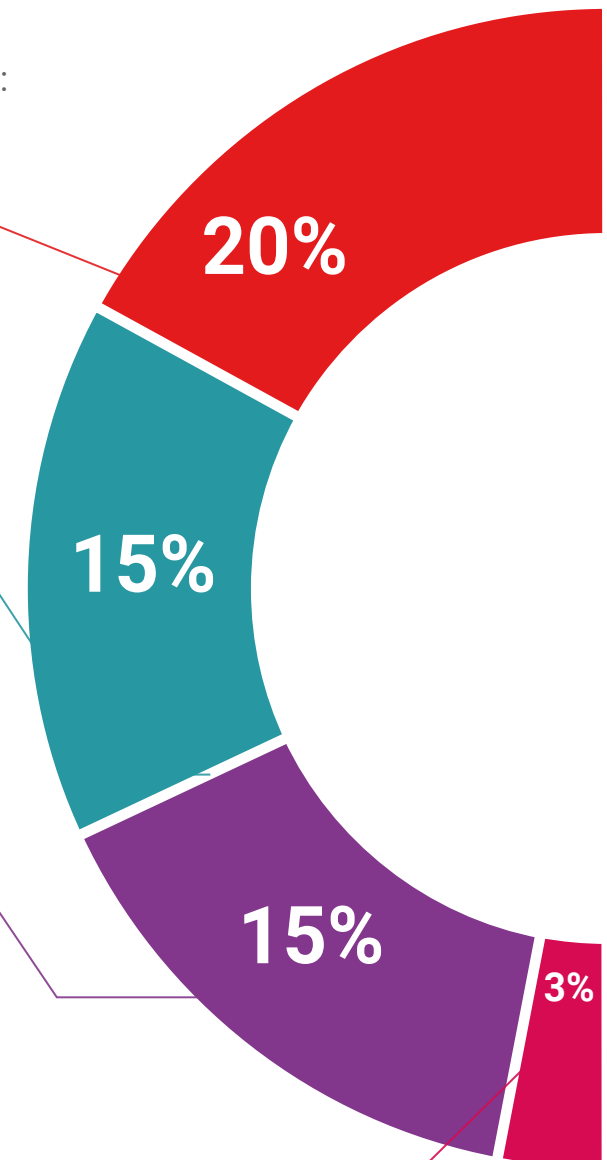
### Interactive Summaries

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

Through the narratives of expert professionals, it is possible to acquire a high degree of understanding of the most frequent problematic situations. The professional's healthcare practice is not alien to the context in which it takes place. If we want to train ourselves to improve our professional practice, this training must be situated within the context in which it takes place.



#### Testing & Re-testing

We periodically evaluate and re-evaluate your knowledge throughout this program through activities and evaluative exercises.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an expert strengthens knowledge and recall, and generates confidence in our future difficult decisions



#### Quick Action Guides

One of the most important functions of our team is to select those contents considered essential and present them in the form of worksheets or quick action guides to facilitate their understanding.



06

# Certificate

This Postgraduate Diploma in Oncologic Diagnosis. Technological Advances and Big Data guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Diploma issued by TECH Global University.





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

This private qualification will allow you to obtain a **Postgraduate Diploma in Oncologic Diagnosis. Technological Advances and Big Data** 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.

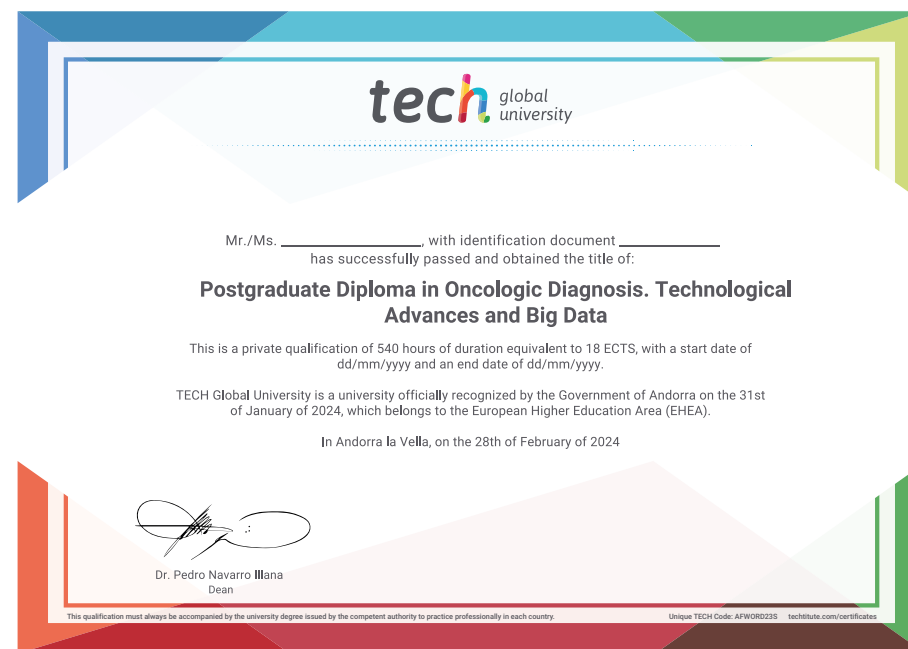
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Oncologic Diagnosis. Technological Advances and Big Data**

Modality: **online**

Duration: **6 months**

Credits: **18 ECTS**



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



**Postgraduate Diploma**  
Oncologic Diagnosis.  
Technological Advances  
and Big Data

- » Modality: online
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# Postgraduate Diploma

Oncologic Diagnosis.  
Technological Advances  
and Big Data

