

Postgraduate Certificate

Clinical Genetics in Hereditary Cancer



Postgraduate Certificate Clinical Genetics in Hereditary Cancer

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/clinical-genetics-hereditary-cancer

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01

Introduction

Between 5 and 10% of cancers are hereditary. Several hereditary cancer syndromes are currently known to affect diverse families. This course will provide the physician with a comprehensive learning of the recommended genetic criteria for identification so that effective preventive medical intervention can be made.

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Acquire the genetic criteria necessary to detect and intervene with families affected by hereditary cancer in a training program created by the best professionals in the sector”

The consequences of cancer in general are devastating; therefore, it is essential to provide knowledge of the different syndromes of hereditary neoplasms and to know the criteria for identifying those families susceptible of carrying mutations in genes with a high risk of predisposition to hereditary cancer. In this module, all known syndromes of hereditary cancer affecting various organs and systems such as breast, ovarian, colon, gastric, pancreatic, prostate, skin, etc., will be presented.

An exhaustive learning of the criteria used in genetics and recommended by the different scientific societies for the identification of these families and to be able to carry out a process of diagnosis, counseling and design of protocols for early detection and risk-reducing surgery for these hereditary oncological conditions will be offered. In addition, a practical knowledge of the management of these families will be offered to minimize the consequences of the mutations associated with the disease and to avoid its transmission to future generations in the same family.

This Online Course offers you the characteristics of a high-level scientific, teaching and technological course. These are some of its most notable features:

- 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
- Autonomous 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
- Supplementary documentation databases are permanently available, even after the course



A specialty of notable interest for the medical professional, which you will be able to acquire efficiently through this course"



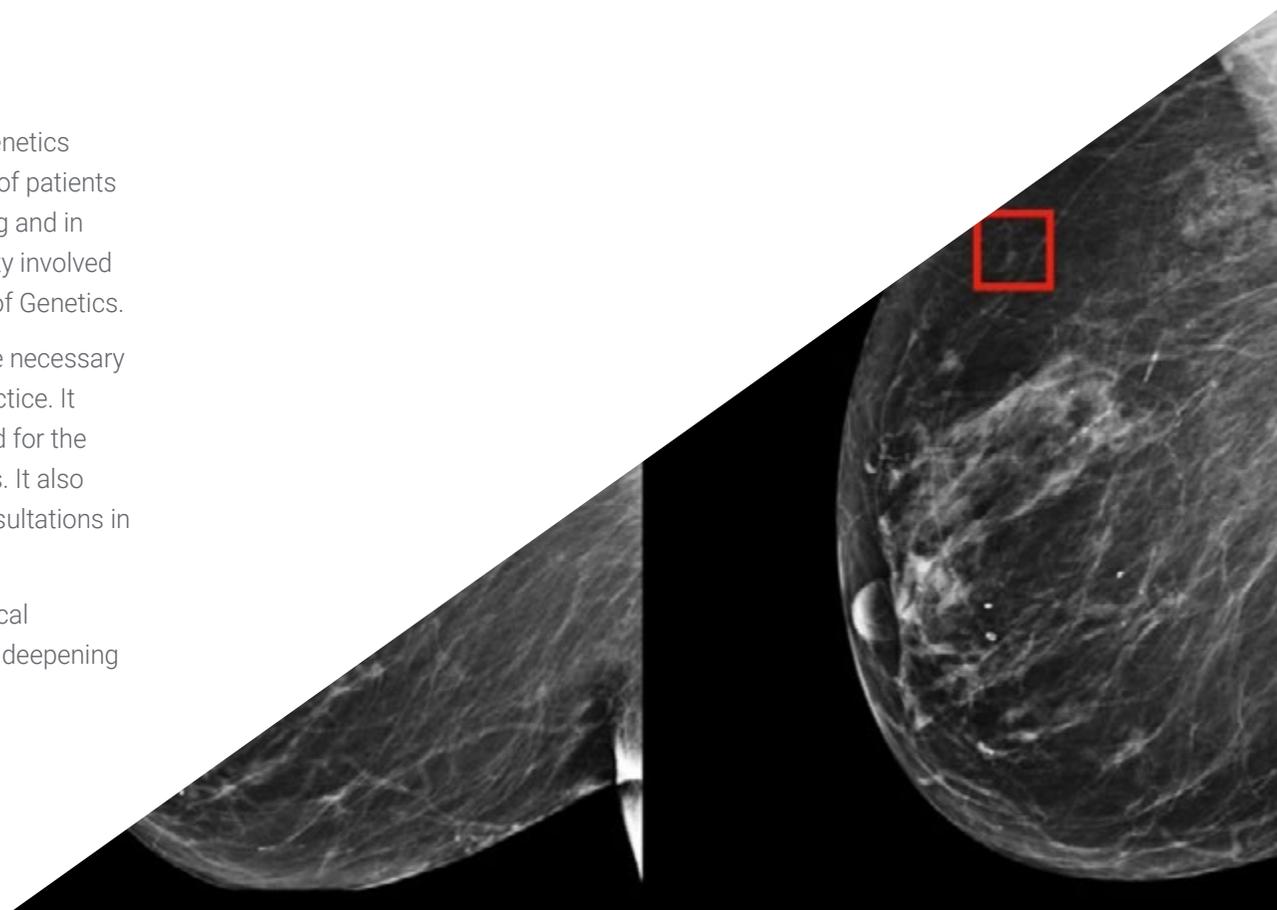
Acquire the ability to work with the most advanced genetic tools and take a step ahead of the needs that the labor market will increasingly demand from medical professionals"

This 100% online course will allow you to combine your studies with your professional work while increasing your knowledge in this field.

This program has been developed by professionals from different clinical genetics clinics in which they contribute their experience in daily practice, in the care of patients and families with a variety of hereditary disorders, both in genetic counseling and in prevention programs and prenatal and preconception counseling. The faculty involved in the course also carries out important research tasks relevant to the field of Genetics.

The course program addresses in its different modules the basic knowledge necessary for the management of patients and their diseases in a clinical genetics practice. It offers a practical approach to the different techniques most commonly used for the diagnosis of hereditary diseases, as well as the interpretation of their results. It also offers an approach to the diseases that motivate the largest number of consultations in daily practice in the field of Clinical Genetics.

The course contains a theoretical text of the subject to be addressed, practical examples extracted from clinical cases that will help the understanding and deepening of knowledge.



02

Objectives

Currently not all hospitals have genetics units, and it is foreseeable that all healthcare centers will have genetics units in the coming years. Students in this program will deepen the knowledge required to work as clinical geneticists both in the field of diagnosis and counseling in these units or to be part of multidisciplinary groups of medical services, where patients with hereditary diseases are treated.





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With a high training objective, this course will allow you to acquire knowledge in an efficient way, combining your study with other activities”



General objectives

- Knowledge of the historical evolution of knowledge in the area of genetics
- Learn the use of genetic analysis for diagnostic purposes
- To learn about all known hereditary cancer syndromes
- Learn about all known hereditary cancer syndromes
- Recognize genetic diseases affecting the sensory organs and know how to manage them
- Detail the molecular basis and mechanisms for the diagnosis of endocrine diseases
- Know the genetic diseases affecting the central and peripheral nervous system
- Learn about genetic nephrourological diseases, such as Fabry disease or Alport Syndrome
- Addressing the different major pediatric diseases
- Review hematological, metabolic and deposit, cerebral and small vessel diseases





Specific objectives

Module 1: Hereditary Cancer

- ◆ Provide the student with the necessary tools for the acquisition of knowledge of the criteria for the identification of families with susceptibility to the different hereditary cancer syndromes
- ◆ Identification of individuals at risk
- ◆ Planning protocols with early prevention programs, as well as the different risk-reducing surgery techniques and areas of application
- ◆ Specialize in the risk of transmission to offspring
- ◆ Develop preimplantation genetic diagnosis in cancer

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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A course created and directed by experts in clinical genetics who will take you through the most up-to-date and complete knowledge and give you the real and contextual vision of this area of work"

International Guest Director

With an outstanding scientific career in the field of Molecular Genetics and Genomics, Dr. Deborah Morris-Rosendahl has devoted herself to the analysis and diagnosis of specific pathologies. Based on her excellent results and prestige, she has taken on professional challenges such as directing the NHS South East Genomic Laboratory Hub in London.

The research of this world-class expert has focused on the identification of novel disease-causing genes for both single-gene disorders and complex neuropsychiatric conditions. Her particular interest in neuroevolutionary processes has led her to determine genotype-phenotype associations, various cortical developmental conditions, and to refine genotype-phenotype correlations for Lissencephaly, Primary Microcephaly and Microcephaly Syndromes.

She has also turned her attention to inherited cardiac and respiratory conditions, areas in which her laboratory is charged with specialized testing. On the other hand, her team has been dedicated to designing cutting-edge methodologies to offer innovative genomic diagnostics, consolidating her reputation as a leader in this field globally.

Dr. Morris-Rosendahl began her education in science at the University of Cape Town, where she obtained an honors degree in Zoology. To continue her studies, she joined the Mammalian Research Institute at the University of Pretoria. With the advent of recombinant DNA technology, she immediately redirected her efforts to Human Genetics, completing her PhD in that field at the South African Institute of Medical Research and the University of the Witwatersrand.

However, she has carried out postdoctoral research in South Africa, the United States and Germany. In Germany, she became Director of the Diagnostic Laboratory of Molecular Genetics at the Institute of Human Genetics, University Medical Center Freiburg. Recently, she has been collaborating with several multidisciplinary teams in the UK.



Dra. Morris-Rosendahl, Deborah

- ♦ Scientific Director of the NHSE South East Genomic Laboratory Hub, London, UK
- ♦ Asmarley Principal Investigator in the Molecular Genetics and Genomics Group at the British Heart and Lung Institute
- ♦ Scientific Director, Genomic Innovation Unit, Guy's and St. Thomas' NHS Foundation Trust, UK
- ♦ Head of Clinical Genetics and Genomics Laboratory, Royal Brompton and Harefield Hospitals Clinical Group, UK
- ♦ Head of the Molecular Genetics Diagnostic Laboratory at the Institute of Human Genetics, University Medical Center Freiburg, Germany
- ♦ Research Fellow at the Institute of Mammalian Research, University of Pretoria
- ♦ Postdoctoral Fellow at Baylor College of Medicine, Houston, Texas, United States
- ♦ Postdoctoral stay awarded the Alexander von Humboldt Research Fellowship
- ♦ Doctorate in Human Genetics at the South African Institute of Medical Research and the University of the Witwatersrand
- ♦ B.Sc. in Zoology at the University of Cape Town

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

Management



Dr. S. Tahsin Swafiri Swafiri, M.D.

- ◆ Degree in Medicine and General Surgery (University of Extremadura - Badajoz).
- ◆ Specialist in Clinical Biochemistry and Molecular Pathology (Puerta de Hierro University Hospital, Majadahonda).
- ◆ Master's Degree in Rare Diseases (University of Valencia).
- ◆ Positions.
- ◆ Attending physician in Clinical Genetics at the University Hospitals of Infanta Elena, Rey Juan Carlos I, Fundación Jiménez Díaz and General de Villalba.
- ◆ Associate Professor of Genetics at the Francisco de Vitoria University School of Medicine (Pozuelo de Alarcón- Madrid).
- ◆ Health Research Institute - Jiménez Diaz Foundation University Hospital.

Professors

Dr. Lorda Sánchez, Isabel María

- ◆ Adjunct Physician at the Genetics Service of the Jimenez Diaz Foundation since January 1999 (20 years)
- ◆ Degree in Medicine and Surgery from the University of Zaragoza. 1988
- ◆ Doctor of Medicine from the University of Zurich. Year 1991.
- ◆ Validated in 1993
- ◆ Personal Professional Accreditation in Human Genetics (AEGH)
- ◆ Certifications
- ◆ Member of the Spanish Association of Human Genetics (AEGH).
- ◆ Member of the European Cytogenetics Association (ECA)

Dr. Kelly. PhD, MD, Fiona Blanco

- ◆ Adjunct physician of the genetics service of the Jiménez Diaz Foundation University Hospital. Institute for Health Research-FJD.
- ◆ Adjunct Physician (Area Specialist) of the Genetics Service of the Jiménez Diaz Foundation University Hospital.
- ◆ Degree in Medicine and Surgery from the Faculty of Medicine of the Complutense University of Madrid (2004).
- ◆ Area Specialist in Clinical Biochemistry since 2009.
- ◆ Doctorate in Medicine in 2012
- ◆ Professional Master's Degree in Rare Diseases, University of Valencia, Valencia, Spain 2017.

- ♦ Professional Master's Degree in Rare Diseases, University of Valencia, Valencia, Spain 2017.
- ♦ Postdoctoral Course: University Expert in Clinical Genetics of the University of Alcalá de Henares, Madrid, Spain 2009
- ♦ Honorary Research Associate at the Institute of Ophthalmology (IoO), University College London (UCL), London, UK (01/2016-31/12/2020).
- ♦ Secretary of the Training and Dissemination Commission of the Spanish Association of Human Genetics.

Dr. Almoguera Castillo, Berta

- ♦ D. in Genetics and Cell Biology. Juan Rodés Researcher (JR17/00020; ISCIII) at the Genetics Service of the Jiménez Díaz Foundation. Madrid.
- ♦ 2011: D. in Genetics and Cell Biology. Autonomous University of Madrid. Thesis Title: "Utility of pharmacogenetics to predict the efficacy and safety of risperidone in the treatment of schizophrenia." Directors: Dr. Carmen Ayuso and Dr. Rafael Dal-Ré
- ♦ 2009: Specialized Health Training (FSE) in Clinical Biochemistry. Puerta de Hierro University Hospital, Madrid.
- ♦ 2007: Diploma of Advanced Studies with the title "Molecular characterization of mitochondrial diseases with predominant phenotypic expression in cardiac muscle" directed by the Dr. Belén Bornstein Sánchez. Complutense University of Madrid
- ♦ 2018-Present: Juan Rodés Researcher (JR17/00020; ISCIII) at the Genetics Service of the Jiménez Díaz Foundation. Madrid.
- ♦ 2015 - 2018: Research Scientist at the Center for Applied Genomics, The Children's Hospital of Philadelphia (USA).



The best professionals are at the best university. Don't miss the opportunity to train with them."

04

Structure and Content

The contents of this training have been developed by the different experts of this course, 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. Expert patients participate in the preparation of the program, which adds a very original and close perspective, with real cases and situations that are not only clinical but also social. It has a holistic perspective, not just a medical one, making it of interest to healthcare professionals of any kind.



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The syllabus compiles all the aspects that the medical professional wants to be trained in Hereditary Cancer Genetics and those they need to acquire, with a structure designed to boost and maintain your motivation"

Module 1. Hereditary Cancer

- 1.1. Hereditary Breast and Ovarian Cancer Syndromes
 - 1.1.1. High Predisposition Genes
 - 1.1.2. Intermediate Risk Genes.
- 1.3. Nonpolyposis Colorectal Cancer Syndrome (Lynch Syndrome)
- 1.4. Immunohistochemical Study of DNA Repair Proteins
- 1.5. Microsatellite Instability Study
- 1.6. MLH1 and PMS2 Genes
- 1.7. MSH2 and MSH6 Genes
- 1.8. Lynch-Like Syndrome.
- 1.9. Familial Adenomatous Polyposis Syndrome
- 1.10. APC Gene
- 1.11. MUTYH Gene
- 1.12. Other Polyposis
 - 1.12.1. Cowden Syndrome
 - 1.12.2. Li Fraumeni Syndrome
 - 1.12.3. Multiple Endocrine Neoplasms
 - 1.12.4. Neurofibromatosis.
 - 1.12.5. Tuberous Sclerosis Complex
 - 1.12.6. Familial Melanoma.
 - 1.12.7. Von Hippel Lindau Disease





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A very complete teaching program, structured in didactic units organized to achieve fast and effective learning, with a focus on practical application”

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, 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 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

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 abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method.

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



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, 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 high socioeconomic profile and an average age of 43.5 years old.

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 (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

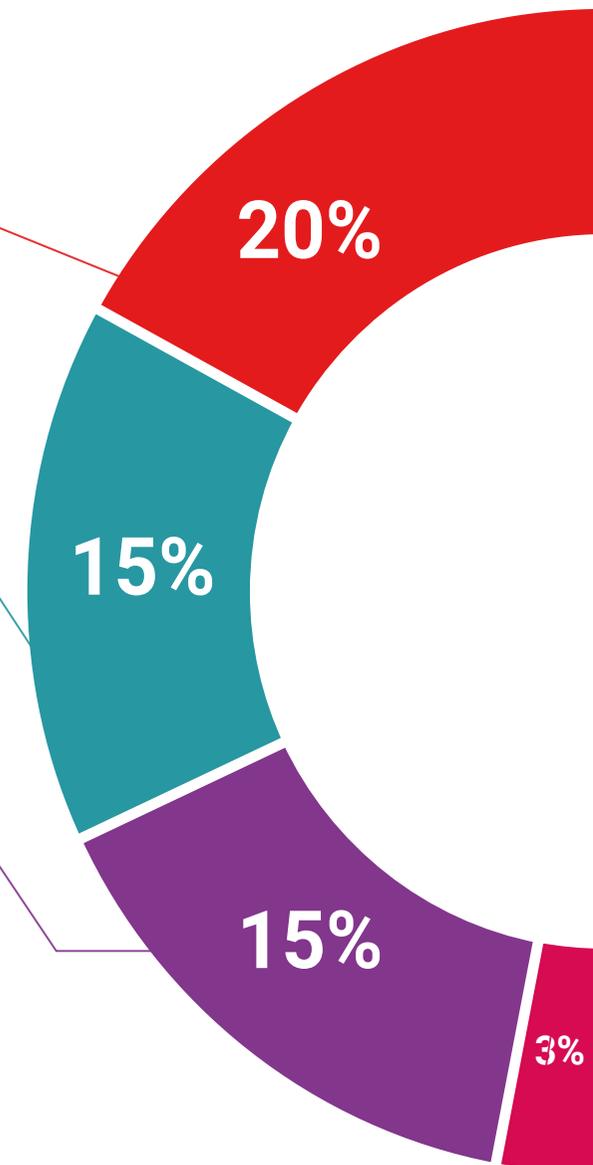
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

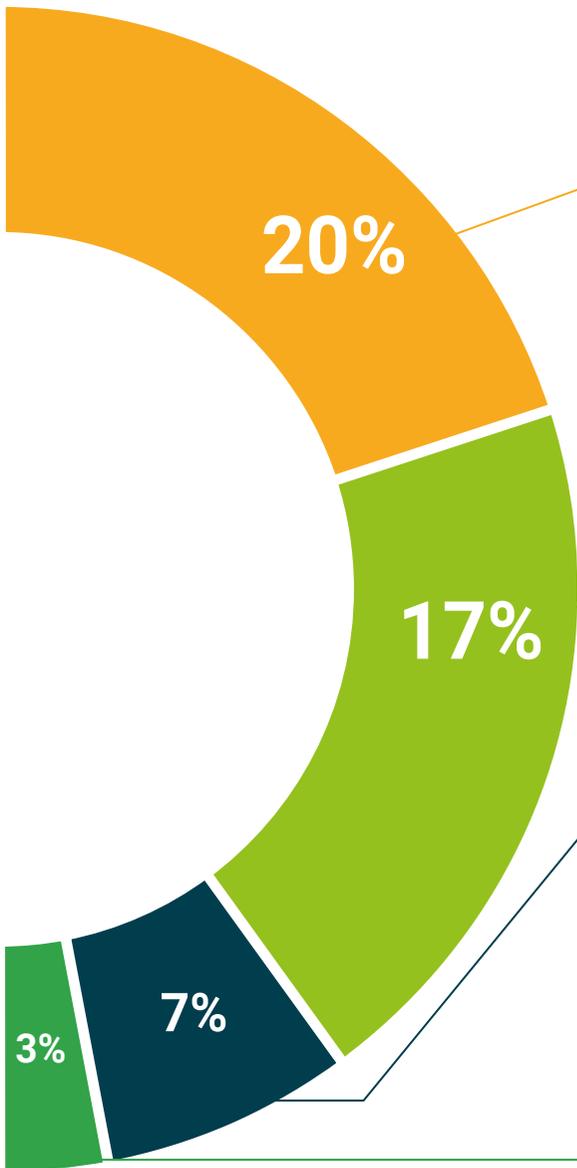
This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



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, 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 & Re-testing

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 your goals.



Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



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

This Postgraduate Certificate in Clinical Genetics in Hereditary Cancer guarantees, in addition to the most rigorous and up-to-date training, access to a Postgraduate Certificate issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Certificate in Clinical Genetics in Hereditary Cancer** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

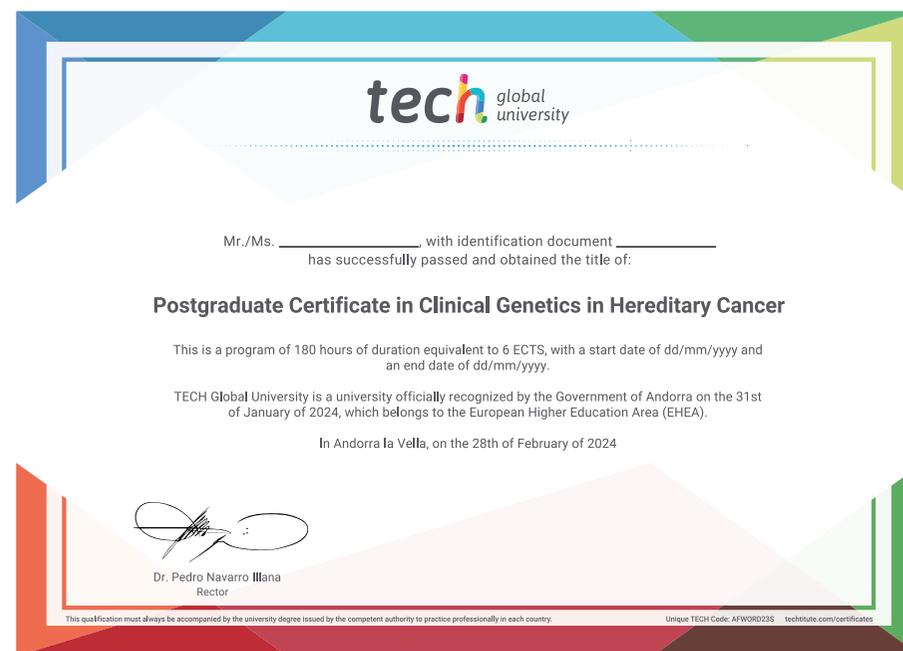
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Clinical Genetics in Hereditary Cancer**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 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.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge presence
online training
development languages
virtual classroom



Postgraduate Certificate

Clinical Genetics in Hereditary Cancer

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Postgraduate Certificate

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