

# Postgraduate Certificate

## Genetics and Epigenetics of Antiaging



## Postgraduate Certificate Genetics and Epigenetics of Antiaging

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

Website: [www.techitute.com/pk/medicine/postgraduate-certificate/genetics-epigenetics-antiaging](http://www.techitute.com/pk/medicine/postgraduate-certificate/genetics-epigenetics-antiaging)

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01

# Introduction

Aesthetics and the cult of the body are a fundamental part of today's society. As a result, more and more men and women are deciding to undergo treatments to prevent aging, with the aim of achieving "eternal youth".



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*Do not hesitate to get up to date with this program in Genetics and Epigenetics of Antiaging, in which you will find the latest developments in the field"*

The importance of personal image is growing more and more in our society, which brings with it that a great number of people decide to have some aesthetic treatment, especially to avoid physical aging.

The molecular mechanisms behind human aging are known, and it is therefore possible to slow them down, so it is possible to rejuvenate in the same way. Skin care depends on different external agents, as well as on the nutrients that reach it through food.

Anti-aging treatments should be aimed at prolonging life with quality, since prevention is the basis of longevity. Therefore, an understanding of oxidative stress, endothelial dysfunction, cardiometabolic indicators and global lifestyle intervention are essential in achieving a better quality of life.

The **Postgraduate Certificate in Genetics and Epigenetics of Antiaging** is a training program designed to provide physicians with the necessary knowledge to implement the specialization in their professional life. It brings an added balance to working life and opens a door to a growing demand for healthcare.

This **Postgraduate Certificate in Genetics and Epigenetics of Antiaging** contains the most complete and up-to-date educational program on the market. The most important features of the program include:

- ♦ The development of case studies presented by experts in Genetics and Epigenetics of Antiaging.
- ♦ 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 developments in Genetics and Epigenetics of Antiaging.
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning.
- ♦ Special emphasis on innovative methodologies in Genetics and Epigenetics of Antiaging.
- ♦ 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.



*Expand your knowledge through this course in Genetics and Epigenetics of Antiaging, which will allow you to specialize until you achieve excellence in this field"*

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*This Postgraduate Certificate is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Genetics and Epigenetics of Antiaging, you will obtain a Postgraduate Certificate Certificate by TECH Technological University”*

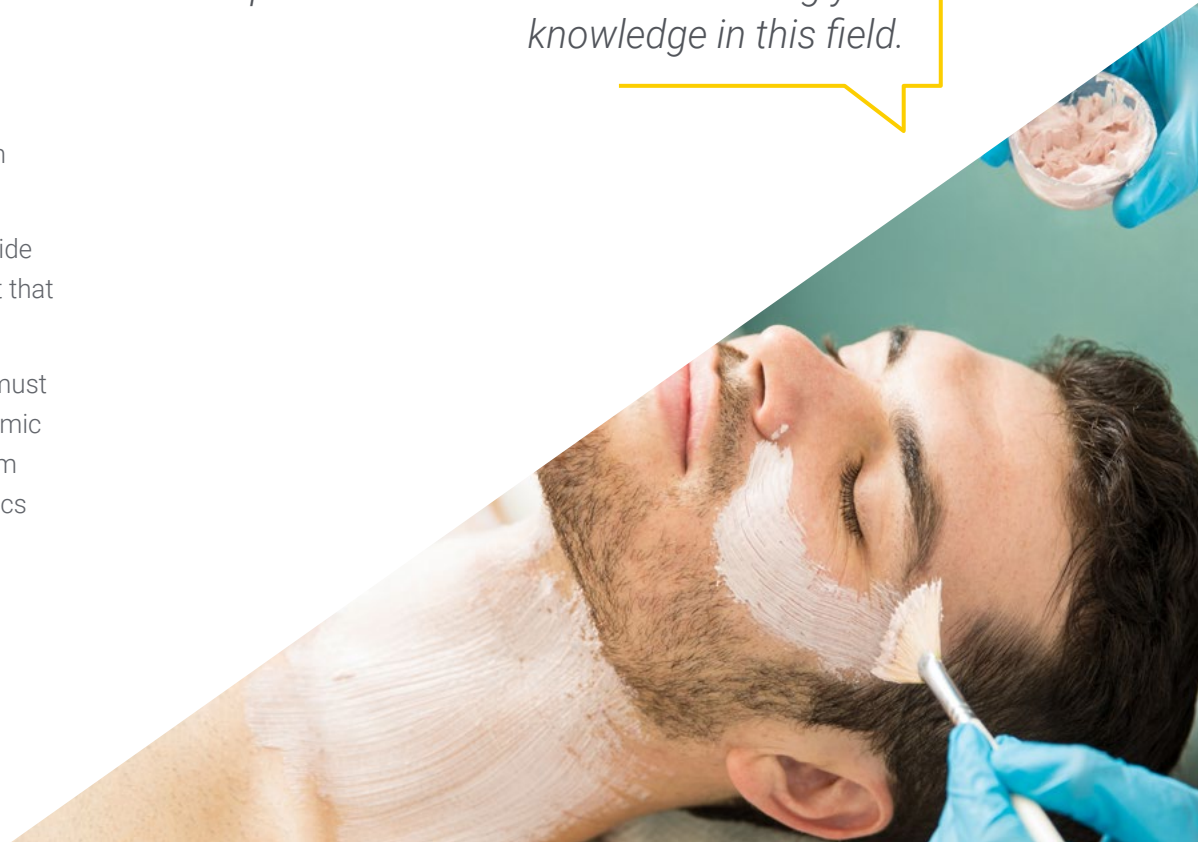
The teaching staff includes professionals from the field of Aesthetic Medicine, who bring their experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 programmed to train in real situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the academic year. For this, the professor will be assisted by an innovative interactive video system created by renowned and experienced experts in the field of Genetics and Epigenetics of Antiaging.

*Do not hesitate to take this training with us. You will find the best teaching material with virtual lessons.*

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



# 02 Objectives

The **Postgraduate Certificate in Genetics and Epigenetics of Antiaging** is oriented to facilitate the performance of the professional dedicated to teaching with the latest advances and newest treatments in the sector.



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*Specialize in Genetics and Epigenetics of Antiaging and learn about the latest advances in this area of Aesthetic Medicine"*



### General Objective

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- Teach the knowledge of all anti-aging modalities and aesthetic treatments, incorporating the necessary tools to exercise this specialty in their daily practice.
- Learn how to control, delay and prevent the existing aging process today.

*A complete program that will help you keep up to date with the latest developments in Genetics and Epigenetics of Antiaging.*





## Specific Objectives

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- ♦ Learn more about skin aging and anti-aging treatments.
- ♦ Know the genetic aspects of skin aging.
- ♦ Discover the nutritional aspects related to medical-aesthetic treatments.

03

# Course Management

The program includes in its teaching staff reference experts in Aesthetic Medicine, who pour into this training the experience of their work. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.





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*The leading experts in Aesthetic Medicine have joined forces to share with you all their knowledge in this field"*

## Management



### **Dr. Mosquera González, Margarita**

- Medical Director of the Comprehensive Aesthetic Medicine area. C&M Clinic. Rivas. Madrid
- Specialist Physician in the Preventive Medicine Unit of the Alcorcón Foundation University Hospital
- Specialist in Aesthetic and Anti-Aging Medicine



### **Dr. Lacosta Esclapez, Pilar**

- Head of the Department of Aesthetic Medicine of the Lipedema Unit - Virgen de la Paloma Viamed Hospita
- Head of the Department of Aesthetic Oncological Medicine at the Plastic Surgery Clinic of Dr. Granado Tiogonce
- Responsible for the Unit of Quality of Life of the Oncology Patient
- Aesthetic Physician at Nuestra Señora de La Paloma Hospital
- Aesthetic Physician at Pilar Lacosta Clinic
- Medical Director of the Sergesa Center for Dependency
- Director of Aesthetic Oncology Medicine Unit in the clinic of Dr. Granado in Pozuelo de Alarcón
- Medical Director of Dr. Pilar Lacosta Clinic in Boadilla del Monte
- Some societies to which she belongs: Member of the Board of Directors of the group of experts in aesthetic medicine in oncology patients (GEMEON), SEMNO (Spanish Society of Nutrition and Orthomolecular Medicine), SEME (Spanish Society of Aesthetic Oncological Medicine)

## Professors

### Dr. Ramos Trujillo, María

- ♦ Aesthetic Physician expert in Quality of Life and Medical-Aesthetic Care
- ♦ Responsible for the sections of Clinical Coding, Archiving and Documentation Management
- ♦ President of the Medical Records and Mortality Commission of the Castellón General University Hospital
- ♦ Member of the Patient Safety Committee of the Castellón General University Hospital
- ♦ Member of the Ethics Committee for Research with Medicines (CEIM) of the Hospital

### Dr. Zetina Toache, Luis Miguel

- ♦ Medical Director of Oncomédica Cáncer Consultants
- ♦ Affiliated to the MSD Global Lung Scientific Symposium





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*Our teaching team will provide you with all their knowledge so that you are up to date with the most up-to-date information on the subject”*

04

# Structure and Content

The structure of the content has been designed by the best professionals in the Aesthetic Medicine sector, with extensive experience 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 teaching.





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*This Postgraduate Certificate in Genetics and Epigenetics of Antiaging contains the most complete and up-to-date scientific program on the market”*

## Module 1. Genetics and Epigenetics of Systemic and Skin Anti-Aging. Therapeutic Implications

- 1.1. Introduction to the Concept of Systemic Anti-Aging, a Necessary Complement to Aesthetic Medicine.
  - 1.1.1. Man is a Mortal Being and aging is an Inevitable Law of Nature. From Philosophy to Science.
  - 1.1.2. "Life Expectancy", "Longevity", and "Cardiovascular Mortality".
  - 1.1.3. Chronological Age and Biological Age.
  - 1.1.4. Theories of aging.
  - 1.1.5. Justification of a Specific Medicine of aging: Common Features of aging. Slowing Down the Process and Improving Quality of Life as a Challenge of Modern Medicine.
  - 1.1.6. AA Medicine as a Complement to Aesthetic Medicine.
  - 1.1.7. Origins of Anti-Aging Medicine.
    - 1.1.7.1. Birth of a New Medicine, Not Just a Term.
    - 1.1.7.2. Historical Perspective.
    - 1.1.7.3. The Precursors of Anti-Aging.
    - 1.1.7.4. Present and Future Perspectives.
- 1.2. Importance of the Medical History and a Good Initial Assessment for Our Anti-Aging Program to Be Truly Effective.
  - 1.2.1. The Location of the Medical History.
  - 1.2.2. Analytical Evaluation beyond the Conventional.
  - 1.2.3. Basic Functional and Imaging Tests.
  - 1.2.4. Basics of Genetics.
  - 1.2.5. Biomarkers
  - 1.2.6. The Preference Given to Cardiorespiratory Fitness in the Initial Assessment as the Main Marker of Overall Mortality, Not Just CV.
  - 1.2.7. Other Tests.
- 1.3. Genetic Aspects of aging. Skin Ageing
  - 1.3.1. Genetics of aging. General Aspects.
  - 1.3.2. Basic Gene Regulation.
  - 1.3.3. Genetics of Oxidative Stress and Antioxidant Battery.
    - 1.3.3.1. Gene Regulation of ROS Production.
    - 1.3.3.2. Gene Regulation of Intracellular Antioxidant Battery.
    - 1.3.3.3. Peripheral Antioxidant Battery Regulation and the Prominent Role of Haptoglobin.



- 1.3.4. Genetics of Sirtuin Enzymes, Antioxidants of our DNA.
- 1.3.5. The Skin as a Multicellular and Multifunctional Tissue.
- 1.3.6. The Exciting World of Ceramides in the Skin and Outside the Skin.
- 1.3.7. Gene-Environment Interaction in Skin aging.
- 1.4. Genetics of Longevity and Epigenetics.
  - 1.4.1. Introduction.
  - 1.4.2. Paola Sebastiani and Elizabeth Blackburn's Major Contributions to the Field of Longevity.
  - 1.4.3. The Role of the Telomere in Anti-Aging.
    - 1.4.3.1. General Aspects.
    - 1.4.3.2. To what Extent Does the Percentage of Short Telomeres Contribute to the Initial Assessment and Monitoring of Successful Anti-Aging?
  - 1.4.4. Introduction to Epigenetics and its Types.
  - 1.4.5. Epigenetic Mechanisms.
    - 1.4.5.1. DNA Methylation.
    - 1.4.5.2. Histone Modifications.
    - 1.4.5.3. Chromatin Remodeling.
    - 1.4.5.4. MicroRNA or Transcriptional Epigenetics.
- 1.5. Nutritional Aspects in Medical-Aesthetic Treatments.
  - 1.5.1. Introduction.
  - 1.5.2. Types of Diets.
  - 1.5.3. Protein Diet. Assessment according to Causality and Intervention.
  - 1.5.4. Intermittent Fasting.
- 1.6. Nutritional Chronobiology
  - 1.6.1. Basis of Chronobiology
  - 1.6.2. Biological Rhythms and Central Clock
  - 1.6.3. Cerebral (Monoamines) and Peripheral (Hormones) Daily Rhythmicity
  - 1.6.4. Circadian Rhythms and Food Intake.
  - 1.6.5. Micronutrition.
- 1.7. The Secrets of Good Anti-Aging Supplementation with the Added Value of Skin Rejuvenation.
  - 1.7.1. Introduction.
  - 1.7.2. Skin Rejuvenation.
  - 1.7.3. Antioxidant Treatment.
  - 1.7.4. Phytonutrients and Probiotics.
  - 1.7.5. Retinoids and their Link to Epigenetics.
- 1.8. "Comprehensive" Lifestyle Management as a Key Element in the Patient's Epigenetic Approach.
  - 1.8.1. Why We Should Not Leave Everything to Supplementation.
  - 1.8.2. "Comprehensive" Lifestyle Management as a Key Element in the Patient's Epigenetic Approach.
  - 1.8.3. Improve your Patients' Compliance with Lifestyle Measures.
- 1.9. Chronic Stress as a Dynamic Element of the aging Process. Modulation Strategies.
  - 1.9.1. Chronic Stress as a Dynamic Element of the aging Process.
  - 1.9.2. Interaction between Chronic Psychological Stress, Oxidative Stress, and Reticulum Stress.
  - 1.9.3. Chronic Stress Response Systems.
  - 1.9.4. Reserve Depletion, Metabolic Inflexibility, and Dysfunctionality.
  - 1.9.5. Modifiable Stress-Associated Categories of the HPA (Hypothalamic-Pituitary-Adrenal) Axis.
  - 1.9.6. Glycemic Dysregulation and HPA Axis Dysfunction.
  - 1.9.7. Breaking the Cycle of Stress, Cortisol, Insulin, Adiposity, and Inflammation.
  - 1.9.8. Modulation Strategies. General Aspects.
  - 1.9.9. Therapeutic Approaches to Improving the Functionality of the HPA Axis.
  - 10.9.10 Supportive Nutraceuticals.
- 1.10. Aesthetic Medicine in Oncology Patients.
  - 1.10.1. Oncology Patients. What is Cancer?
  - 1.10.2. Quality of Life of the Oncology Patient and Aesthetic Medicine: The Healing Power of the Image.
  - 1.10.3. Tests before Procedures in Oncology Patients.
  - 1.10.4. Intervention of the Aesthetic Practitioner Before, During, and After Oncological Treatment.
  - 1.10.5. Oncology Patient Nutrition.

# 05 Methodology

This training program offers a different way of learning. Our methodology follows a cyclical process: ***Re-learning***.

This teaching system is used in the most prestigious medical schools in the world and has been considered one of the most effective by major publications such as ***the New England Journal of Medicine***.





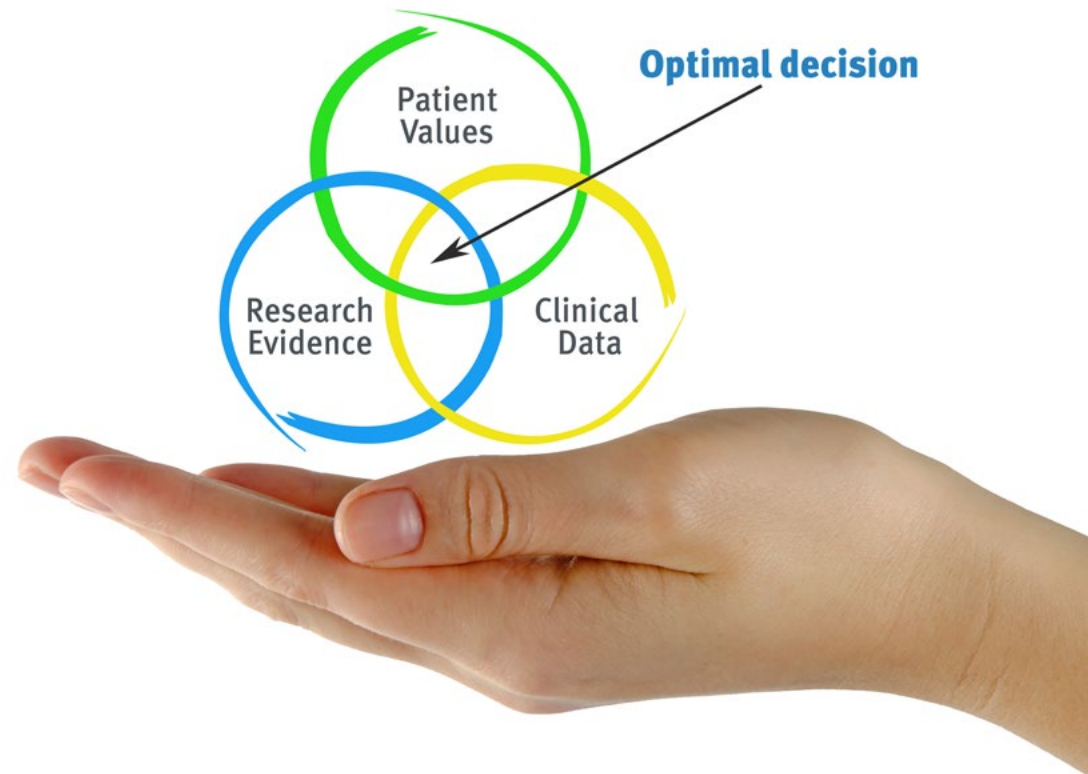
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*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given situation, what would you do? Throughout the training 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 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 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 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 of this, first hand, 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

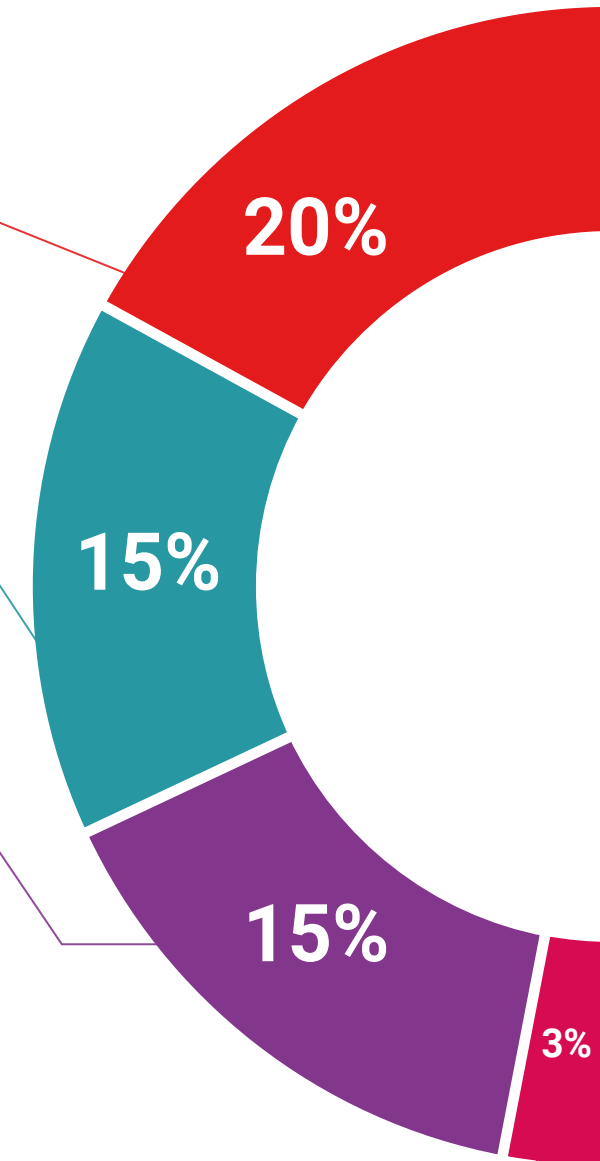
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

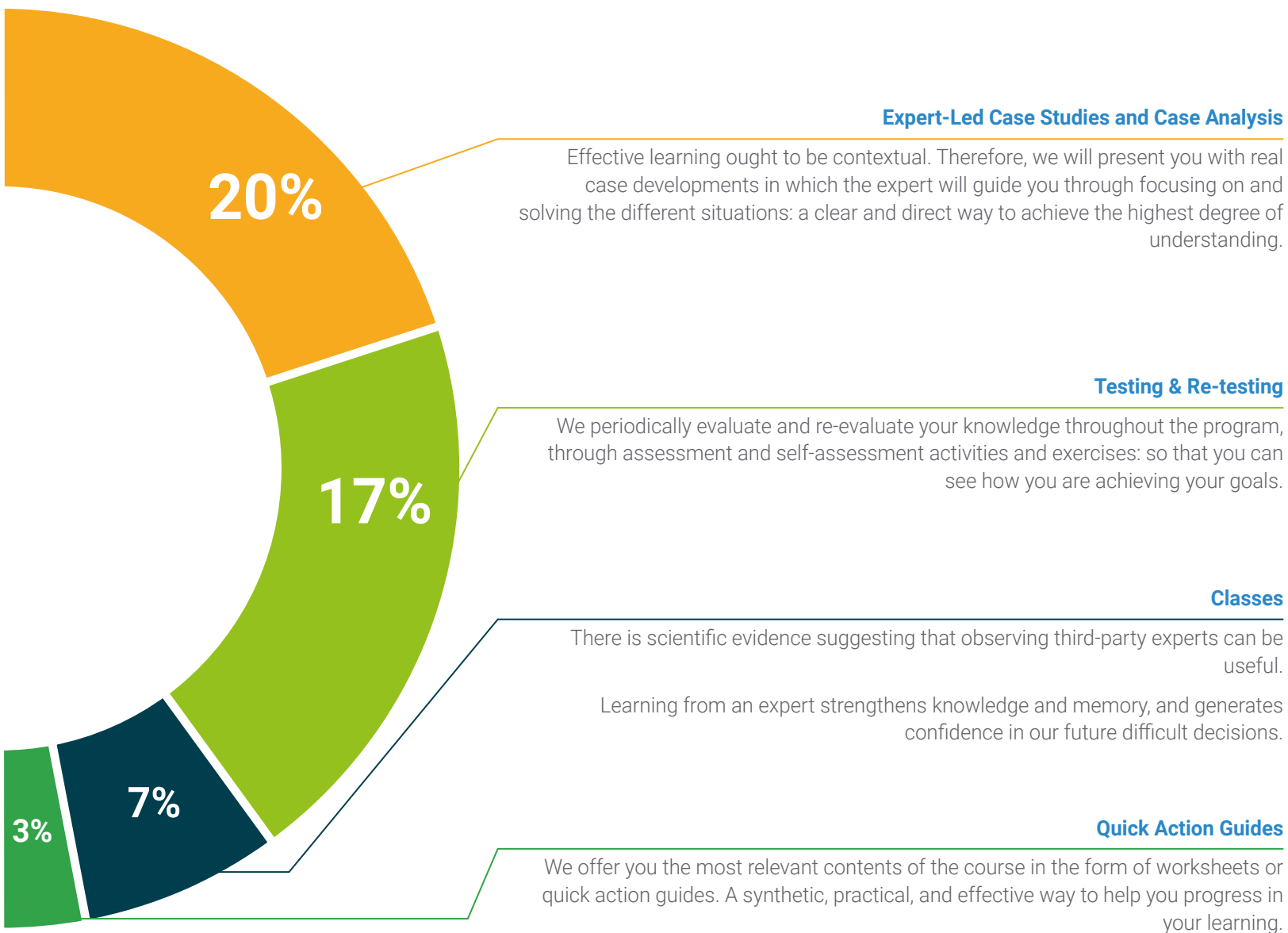
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



#### Additional Reading

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





# 06 Certificate

The **Postgraduate Certificate in Genetics and Epigenetics of Antiaging** guarantees you, in addition to the most rigorous and up-to-date training, access to a **Postgraduate Certificate** qualification issued by **TECH Technological University**.



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

This **Postgraduate Certificate in Genetics and Epigenetics of Antiaging** contains the most complete and up-to-date educational program on the market.

After the student has passed the evaluations, they will receive by mail with acknowledgment of receipt their corresponding **Postgraduate Certificate** issued by **TECH Technological University**.

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

Title: **Postgraduate Certificate in Genetics and Epigenetics of Antiaging**

ECTS: **6**

Nº Hours: **150**



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



## Postgraduate Certificate Genetics and Epigenetics of Antiaging

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