

# Postgraduate Certificate Reproduction Genetics

Endorsed by:





## Postgraduate Certificate Reproduction Genetics

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

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/reproduction-genetics](http://www.techtitute.com/us/medicine/postgraduate-certificate/reproduction-genetics)

# Index

01

Introduction

---

p. 4

02

Objectives

---

p. 8

03

Course Management

---

p. 12

04

Structure and Content

---

p. 18

05

Methodology

---

p. 22

06

Certificate

---

p. 30

01

# Introduction

Reproductive problems have numerous etiologies. In this context, the genetic factor is one of the most important factors that the specialists will have to take into account. Both from the study of reproductive problems and from the viewpoint of preserving the health of the fetus with respect to hereditary diseases, the use of genetic studies can provide the necessary information to determine the pathways for intervention in each clinical case. This program will provide you with all the information you need to perform with the support of the most up-to-date program in the field.



“

Acquire, in just a few weeks of intensive and stimulating work, the most advanced knowledge in Reproduction Genetics, with the practical ability to apply it".

Reproductive Medicine is a speciality which has been advancing at an incredible rate in the last few years, fundamentally thanks to the improvement in laboratory techniques and the development of new genetic diagnosis techniques. In many cases, they can shed light on the failure of previous reproductive treatments by offering new alternatives.

Doctors in this field should stay up-to-date on the area of diagnosis and treatment, but should also deepen their knowledge of the work that takes place in the laboratory. This helps to be able to transmit the necessary information to patients, especially if treatments aren't successful. Likewise, within the laboratory, there must be an understanding of the work of the practice, the types of stimulation and the different factors that can affect the outcome of the treatments. Team work in the Human Reproduction Unit is what allows the treatments to be more personalized.

The objective of this Postgraduate Certificate is to give a global vision to all professionals that allows them to keep up to date in the work of the entire Assisted Reproduction Unit.

Spread over 12 months, this Course is composed of 11 modules and more than 50 topics, where important and innovative aspects will be addressed. These include the latest developments in the study of the female factor, especially at the level of endometrial factor and in-depth study of the male factor. In addition there is focus on applications of genetic techniques in improving results, improvements in the laboratory through time-lapse systems, culture media and quality control systems. All this designed by a team of specialists in Reproductive Medicine leaders in the field in each of the aspects covered.

This Postgraduate Certificate in Reproduction Genetics contains the most complete and up-to-date scientific program on the market. Its most outstanding features are:

- ♦ The latest technology in online teaching software
- ♦ A highly visual teaching system, supported by graphic and schematic contents that are easy to assimilate and understand
- ♦ Practical cases presented by practicing 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-assessment 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 program



With a methodological design based on proven teaching techniques, this program will take you through different teaching approaches to allow you to learn in a dynamic and effective way”

“

This Postgraduate Certificate has been created to quickly obtain the most advanced knowledge of the medical and scientific panorama in the use of genetics in the assisted reproduction intervention environment".

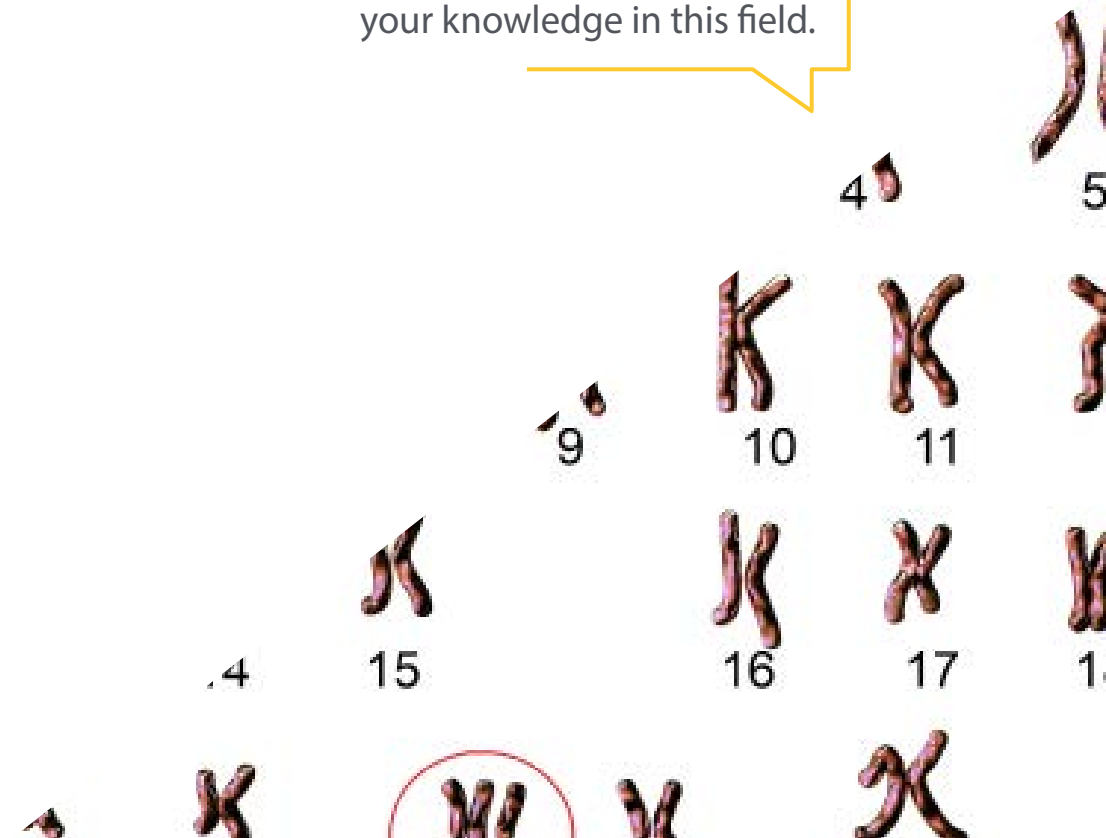
Our teaching staff is composed of medical professionals and active specialists. In this way, TECH ensures to provide students with the up-to-date education it intends. A multidisciplinary team of qualified doctors, experienced in different environments who will cover the theoretical knowledge in an efficient way, but, above all, who will put the practical knowledge derived from their own experience at the service of the program: one of its differential qualities.

The efficiency of the methodological design of this program, enhances students' understanding of the subject. Developed by a multidisciplinary team of e-Learning experts, it integrates the latest advances in educational technology. In this way, students will be able to study with a set of comfortable and versatile multimedia tools, which will give them the operability needed for the program.

The design of this program is based on Problem-Based Learning: An approach that conceives learning as a highly practical process. To achieve this remotely, telepractice will be used: with the help of an innovative system of interactive videos, and learning from an expert you will be able to acquire the knowledge as if you were facing the case you are learning at that moment. A concept that will allow you to integrate and fix learning in a more realistic and permanent way.

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

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



02

# Objectives

The main objective of this Postgraduate Certificate is to bring the students' knowledge up to date in all areas surrounding decision-making during the evaluation of the patient and their partner. This includes the diagnosis, prognosis and the subsequent treatments. A structured approach in all areas related to assisted reproduction that will allow you to increase quality.





“

The main objective of this program is to provide you with up-to-date knowledge in genetics related to hereditary diseases, diagnosis of reproductive problems and their intervention"



## General Objectives

---

- ♦ Acquire up-to-date concepts in anatomy, physiology, embryology and genetics, which will help to understand reproductive diagnostics and treatments
- ♦ Understand, in detail, the aspects related to the initial assessment of a sterile couple. Study criteria and referral to Reproduction Units. Basic clinical examination, request and interpretation of the results of complementary tests
- ♦ Perform an appropriate assessment and clinical orientation of the couple. Indication of request for specific tests based on the above findings
- ♦ Have an exhaustive knowledge of the different types of medical treatment, indications and their choice according to the profile of the patient and their partner
- ♦ Know the indications and surgical techniques that could improve the reproductive results of our patients. Alterations in uterine morphology (congenital or acquired). Endometriosis. Tubal Surgery
- ♦ Know the techniques used in the Andrology, IVF and cryobiology laboratories. Diagnostic techniques and sperm selection techniques. Evaluation ovulation. Embryonic Development
- ♦ Describe the types of genetic embryonic studies that are available, know their possible indications and be able to interpret the results
- ♦ BORRAR
- ♦ Know the main scientific and patient societies in the field of reproductive medicine





## Specific Objectives

---

- ♦ Study the basic concepts of genetics
- ♦ Develop the basic concepts of reproductive genetics
- ♦ Analyze the concept of "epigenetics" and its influence on reproduction
- ♦ Know the different genetic diagnostic techniques, existing platforms and application of each of them according to the diagnostic objective
- ♦ Analyze the indications in reproductive medicine for diagnosis and screening of aneuploidy
- ♦ Interpret the results of genetic studies
- ♦ Understand the need for genetic counseling
- ♦ Knowledge of embryo biopsy techniques
- ♦ Study the results of the preimplantation genetic diagnosis and aneuploidy screening program



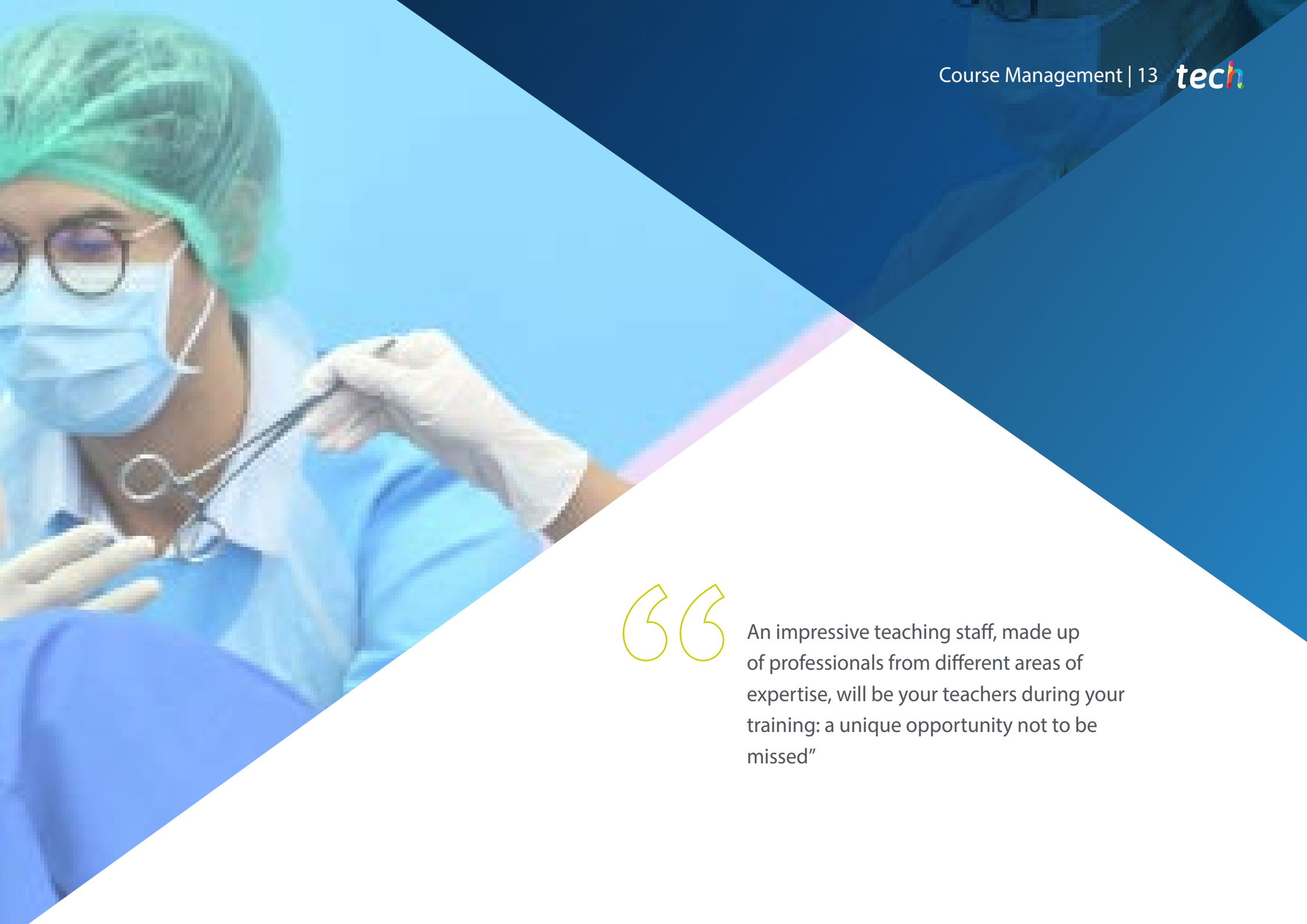
A comprehensive program, developed in an eminently practical way, to quickly provide you with the necessary knowledge for its application”

03

# Course Management

Within the concept of total quality of the Postgraduate Certificate, we are proud to put at your disposal a teaching staff of the highest level, chosen for their proven experience in the educational field. Professionals from different areas and fields of expertise that make up a complete, multidisciplinary team. A unique opportunity to learn from the best.





“

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

## International Guest Director

Dr. Michael Grynberg is a prominent Obstetrician-Gynecologist whose research in Reproductive Endocrinology, Infertility and Andrology has achieved international impact. Likewise, this specialist has been a pioneer in fertility preservation in oncology patients. His avant-garde studies in this field have allowed people facing aggressive medical treatments to maintain options to preserve their reproductive capacity.

Thanks to his extensive knowledge in this scientific area, Dr. Grynberg participated in the foundation of the French Oncofertility Society and later became its elected president. At the same time, he directs the Department of Reproductive Medicine and Fertility Preservation at the Antoine-Béclère University Hospital Center. At the same time, he is a member of the Reproductive Endocrinology Group of the European Society of Human Reproduction and Embryology (ESHRE). In addition, he runs the National College of Obstetricians-Gynecologists (CNGOF) in his country.

He has also published 3 books and accumulated more than 350 scientific publications in journals and conference presentations. In them he has addressed topics ranging from in vitro oocyte maturation in case of ovarian resistance, to investigating the role of ZO-1 in the differentiation of human placental trophoblast cells. Another of his contributions has been the description of the Follicular Outflow Rate (FORT) as a means to evaluate the sensitivity of follicles to FSH hormone. He is also the author of a disruptive proposal based on intraovarian administration of AMH to prevent follicular loss and fertility impairment after cyclophosphamide administration.

In terms of competency development, Dr. Grynberg has sustained intensive academic updating. He completed his specialization at the Lariboisière Faculty in Paris and, in turn, has a training stay at the Center for Reproductive Medicine of the New York Presbyterian Hospital.



## Dr. Grynberg, Michael

---

- ♦ Director of Reproductive Medicine at the Antoine-Béclère Hospital Center, Paris, France
- ♦ Head of the Department of Reproductive Medicine-Fertility Preservation at the Jean-Verdier de Bondy Hospital
- ♦ Director of the French National College of Obstetricians and Gynecologists
- ♦ President of the French Society of Oncofertility
- ♦ Doctor of Medicine at the Lariboisière Faculty in Paris
- ♦ Fellowship at the Center for Reproductive Medicine, New York Presbyterian Hospital
- ♦ Member of: European Society of Human Reproduction and Embryology (ESHRE)

“

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

## Management



### Dr. Iniesta Pérez, Silvia

- ♦ Coordinator of the Reproduction Unit at La Paz University Hospital.
- ♦ Specialist in Gynecology and Obstetrics at the Santa Cristina University Hospital
- ♦ Medical specialist in Gynecology and Obstetrics at Hospital Ruber Internacional
- ♦ Interim Medical Worker at the Hospital Infanta Sofia
- ♦ Physician on Secondment at the La Paz University Hospital
- ♦ Professor in undergraduate and postgraduate studies oriented to Medicine.
- ♦ Principal investigator of 5 multicenter studies.
- ♦ Author of more than 30 articles published in scientific journals.
- ♦ Speaker in more than 30 scientific courses
- ♦ Professional Master's Degree in Genomics and Medical Genetics at the University of Granada.
- ♦ Professional Master's Degree in Minimally Invasive Surgery in Gynecology by the CEU Cardenal Herrera University.





### Dr. Franco Iriarte, Yosu

- ♦ Laboratory and scientific director, International Ruber Hospital
- ♦ Head of the Assisted Reproduction Laboratory of the Virgen del Pilar Health Centre in San Sebastián
- ♦ Head of the Assisted Reproduction Laboratory of Policlínica Guipúzcoa, including the laboratory of Clínica del Pilar
- ♦ Collaboration with the Assisted Reproduction Center, Navarro Medical Center
- ♦ Senior Embryologist at Cornell University Hospitals of New York and RMA of New Jersey
- ♦ Creation of the company Donostia Basque Institute of Fertility located in Onkologikoa. Managing Director.
- ♦ Managing Director of the Donostia Basque Institute of Fertility.
- ♦ Graduate in Biology, University of Navarra (Fundamental and Health Specialty)
- ♦ CAP Qualification (Certificate of Pedagogical Competency)
- ♦ PhD in Science from the University of Navarra. Thesis Title: "Genetic risk factors for venous thrombosis"
- ♦ University Specialist in Assisted Reproduction: Psychological and Legal Aspects from the Complutense University of Madrid.
- ♦ Discussion Table Moderator of the North Forum Reproduction Units on embryonic and oocyte morphological criteria and embryo freezing.
- ♦ Postgraduate Certificate in Nursing. UPV-EHU "Donostia School of Nursing" Donostia- San Sebastián
- ♦ Professional Master's Degree in "Genetic Counseling". San Pablo University CEU in Madrid

## Professors

Dr. Vendrell Montón, F. Xavier

- ♦ Head of the Reproductive Genetics Unit of Sistemas Genómicos SL
- ♦ Responsible for reproductive genetic counseling and preconception at the Valencian Institute of Genetics
- ♦ Staff Biologist, Balearic Infertility Institute in Palma de Mallorca
- ♦ Degree in Biological Sciences, University of Valencia
- ♦ PhD in Biological Sciences with Cum Laude distinction, University of Valencia.

Dr. Sáez de la Mata, David

- ♦ Assistant physician of the Assisted Reproduction Unit of the Infanta Sofía University Hospital of the Community of Madrid
- ♦ Physician of the Assisted Reproduction Unit of Ginemed Madrid Center
- ♦ Degree in Medicine from the University of Alcalá de Henares
- ♦ Professional Master's Degree in Contraception and Sexual and Reproductive Health
- ♦ Professional Master's Degree in Human Reproduction IVI
- ♦ Postgraduate Diploma in Gynecological Exploration and Mammary and Vulvar Pathology
- ♦ Postgraduate Diploma in Uterine Pathology, Menopause and Reproduction
- ♦ Postgraduate Diploma in Obstetric Diagnosis and Pathology and Expert in Childbirth, Puerperium and Lactation by the Institute of Continuing Education of the University of Barcelona



Dr. Cabezuelo Sánchez, Vega María

- ♦ Gynecologist and Obstetrician Expert in Assisted Reproduction
- ♦ Gynecologist and Obstetrician at the Ruber International Hospital
- ♦ Researcher in Human Reproduction at the Ruber Internacional Hospital
- ♦ Collaborator in several publications and scientific communications
- ♦ Member: Spanish Fertility Society (SEF), Spanish Society of Gynecology and Obstetrics (SEGO)

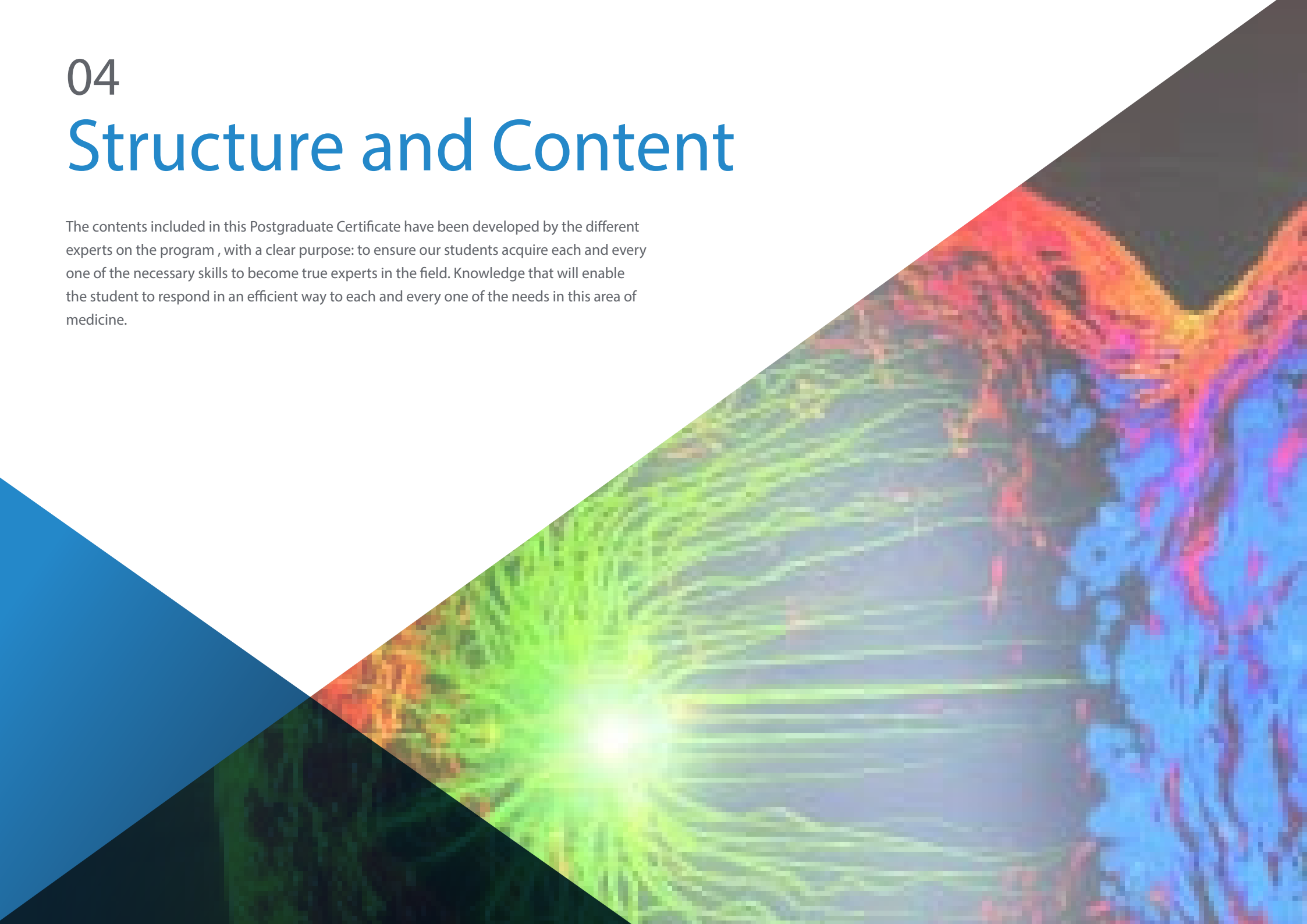
“

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice”

04

# Structure and Content

The contents included in this Postgraduate Certificate have been developed by the different experts on the program , with a clear purpose: to ensure our students acquire each and every one of the necessary skills to become true experts in the field. Knowledge that will enable the student to respond in an efficient way to each and every one of the needs in this area of medicine.



“

A comprehensive teaching program, structured in well-developed teaching units, oriented towards learning that is compatible with your personal and professional life”

## Module 1. Genetics in Reproduction

- 1.1. Important Concepts in the Genetics of Reproduction
- 1.2. Epigenetics. Influence on Reproduction
- 1.3. Genetic Diagnostic Techniques
- 1.4. Genetic Anomalies Related to Male and Female Sterility
- 1.5. Indications for Genetic Studies in Assisted Reproduction
- 1.6. Screening for Recessive Diseases Genetic Matching
- 1.7. Pre-implantational Genetic Diagnosis in Monogenic Diseases
- 1.8. Pre-implantational Genetic Screening in Assisted Reproduction Techniques
- 1.9. Mosaicisms
- 1.10. Genetic Counseling and Advice





“

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

05

# Methodology

This academic program offers students a different way of learning. Our methodology follows a cyclical learning process: Relearning.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the New England Journal of Medicine have considered it to be one of the most effective.





“

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

## At TECH, we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainable 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.

“

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 assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been prepared with unprecedented success in all clinical specialties regardless of surgical load. Our educational methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then adapted in audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high-quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

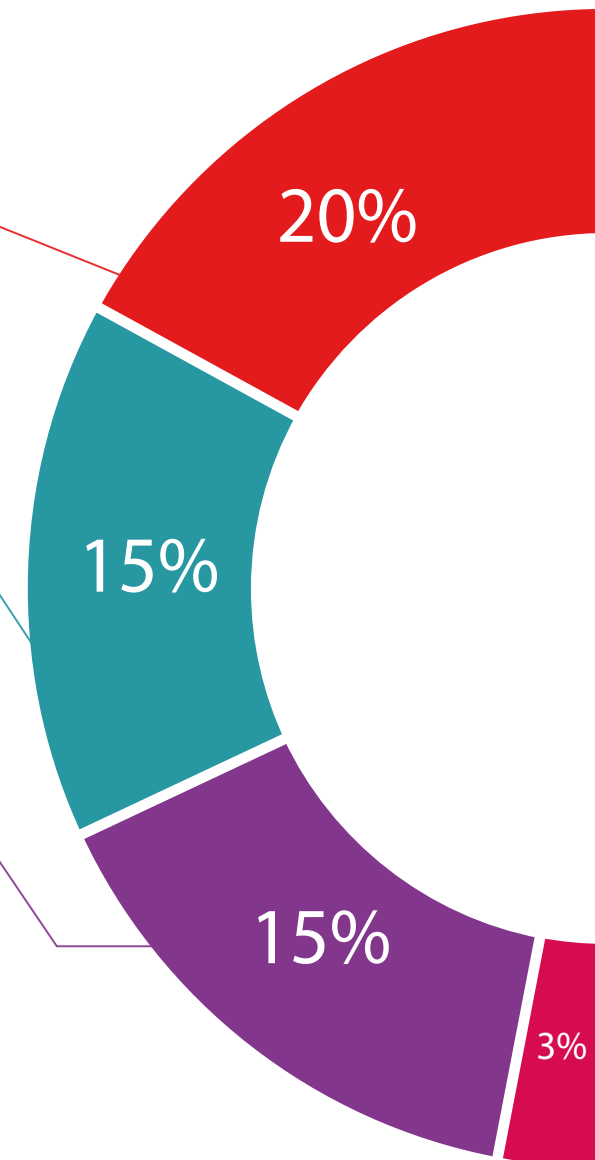
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

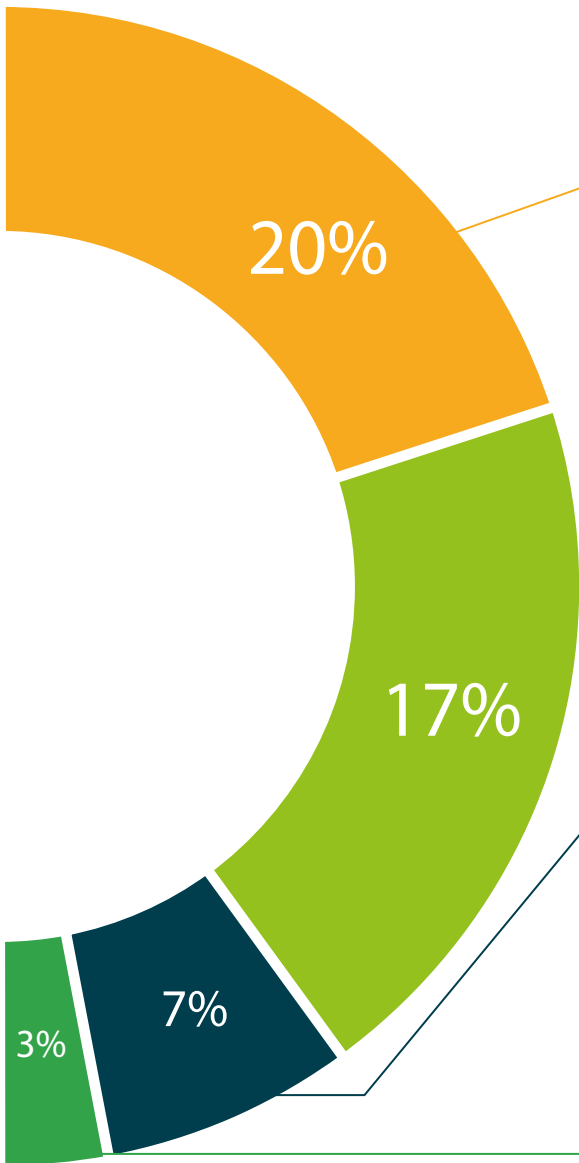
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically assess and re-assess students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.



06

# Certificate

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





“

“Include in your training a Postgraduate Certificate in Reproduction Genetics: a highly qualified added value for any medical professional”

This Postgraduate Certificate in Reproduction Genetics 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 diploma, issued by TECH Technological University via tracked delivery.

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 Reproduction Genetics

Official No. of Hours: 150 h.

Endorsed by: Spanish Fertility Society



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



## Postgraduate Certificate Reproduction Genetics

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

# Postgraduate Certificate Reproduction Genetics

Endorsed by:

