



Postgraduate Diploma

Fetal Genetic Diagnosis and Invasive Procedures **During Pregnancy**

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-fetal-genetic-diagnosis-invasive-procedures-during-pregnancy

Index

> 06 Certificate

> > p. 30



tech 06 | Introduction

Invasive tests in prenatal Medicine have a series of consequences that can lead to premature rupture of membranes or loss of the fetus. An example of this is amniocentesis, a routine test which, although it provides invaluable information on the existence of possible genetic disorders or defects in the fetus, also involves a series of risks that many families are not willing to assume. However, as has been the case in other clinical areas, the advance of science and the increasingly intimate knowledge of the human body and its functioning have made it possible to develop diagnostic strategies and procedures that are increasingly safer for both the mother and the newborn

And in order that professionals in Gynecology and Obstetrics can be updated on their use, advice and recommendations, TECH Technological University has developed this Postgraduate Diploma in Fetal Genetic Diagnosis and Invasive Procedures During Pregnancy. It is a dynamic, extensive and complete diploma that gathers the most important data based on three areas: the screening of chromosomal anomalies, the application of intrauterine fetal therapies and the integral management of multiple pregnancies. In this way, the medical specialist will work in a comprehensive way to improve his or her skills through the knowledge of advances in instrumentation and techniques.

Additionally, the professional will have all the academic material they can imagine for this purpose. In addition to the syllabus, the content includes case studies based on real situations, as well as detailed videos, research articles, complementary readings and much more to contextualize the information according to your needs and requirements. All this in just 6 months of 100% online academic experience, which will allow you to combine your course with the activity of your practice. Therefore, the health professional will achieve the highest clinical level through an updated praxis based on the latest advances in Genetic Diagnosis and Invasive Procedures in Pregnancy.

This Postgraduate Diploma in Fetal Genetic Diagnosis and Invasive Procedures During Pregnancy contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Gynecology and Obstetrics
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- The practical exercises where the self-evaluation process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, forums for discussion of controversial issues and individual reflection papers
- Content that is accessible from any fixed or portable device with an Internet connection



The best program to work on updating your clinical practice for the specialized management of cases in which multiple pregnancy is occurring"



Have you ever delved into cytogenetics and its multiple possibilities as a diagnostic test? Enroll in this program and work on it from wherever you want"

Get up to date on the intrauterine fetal therapies and Invasive Procedures that are leading the way in Obstetrics and Gynecology with this comprehensive program.

You will have access to a state-of-the-art Virtual Campus where you will find all the content from the beginning of the course, so that you can organize yourself according to your priorities.

The program includes in its teaching staff professionals of the field who pour into this training the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.





tech 10 | Objectives

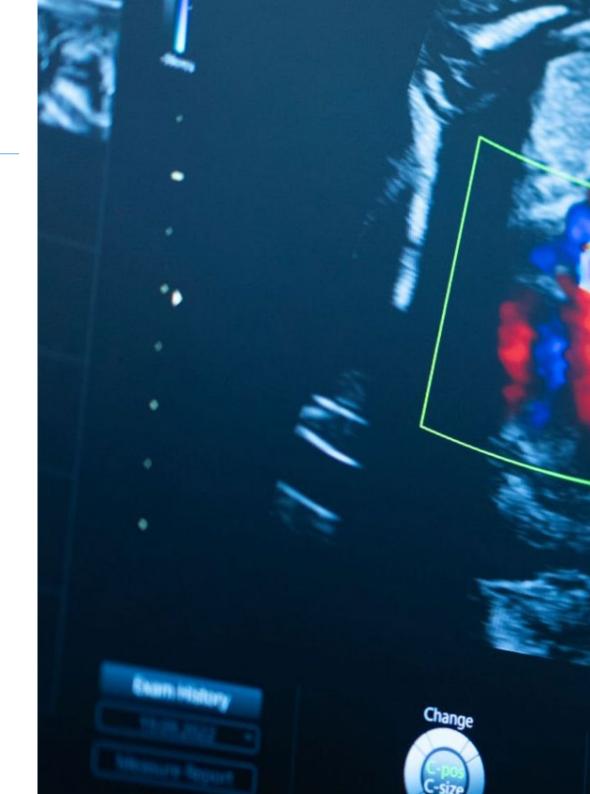


General Objectives

- Provide the specialist with the most extensive and innovative information related to Fetal Genetic Diagnosis, the most innovative tests and the safety recommendations for each case
- Deepen in the advances of Invasive Procedures during pregnancy, especially in the first two trimesters, with special emphasis on the causes and consequences that may derive from the application of each one of them



The program includes a comprehensive analysis of chorionic villus sampling and amniocentesis, so that you can get up to date with their implementation through the recommendations of the best experts"







Specific Objectives

Module 1. Screening of Chromosome Abnormalities

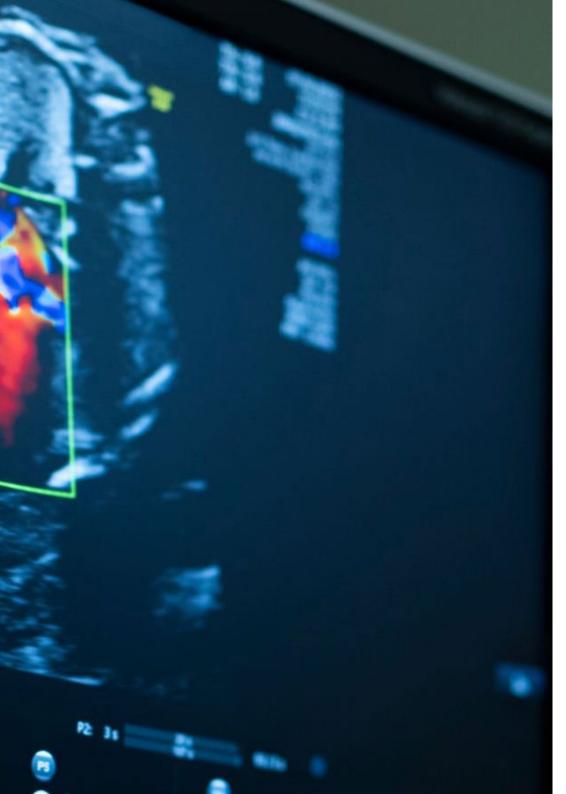
- Delve into the Latest Developments of the screening test
- Have a comprehensive understanding of the latest advances related to the application of combined screening for chromosomal abnormalities in the first trimester of pregnancy, both in single and multiple pregnancies
- Distinguish between the types of genetic diagnostic tests available and their indications
- Master the skills of interpretation of results and the genetic counseling

Module 2. Multiple Gestation

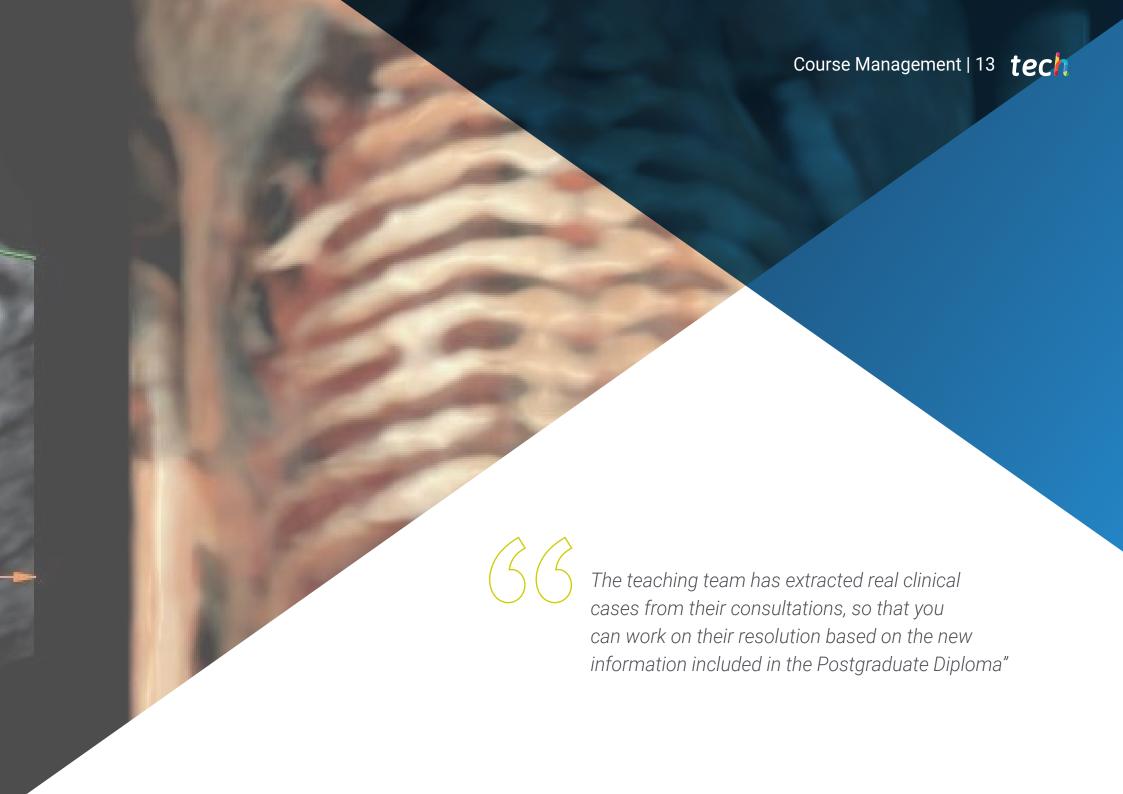
- Delve in depth into new developments in embryology and the origin of multiple pregnancies
- Update on the types of twin pregnancies and clinical management
- Update the protocol for dealing with discordant anomalies
- Deepen in the updates related to the specific complications of monochorionic pregnancies

Module 3. Intrauterine Fetal Therapy and Invasive Procedures

- Have an exhaustive knowledge of the current state of fetal surgery and its future projection
- To know how to identify, based on the most updated medical standards, the pathologies that require fetal surgery
- Update the techniques and approach routes of the different Invasive Procedures
- Acquire updated theoretical knowledge, necessary to implement the main Invasive Procedures in Fetal Medicine and therapy







tech 14 | Course Management

Management



Dr. Gallardo Arozena, Margarita

- FEA in Obstetrics and Gynecology at HU Nuestra Señora of Candelaria
- Founder and Medical Director of Natum Center Ultrasound and Fetal Medicine
- Doctor in Health Sciences, University of La Laguna
- Master's Degree in Refresher for Gynecologists and Obstetricians from the University of Barcelona
- Master's Degree in Healthcare Management in Gynecology and Obstetrics from the Francisco de Vitoria University
- Diploma in Fetal Medicine and Surgery from the Fetal Medicine Foundation (King's College Hospital, London). Invasive techniques and intrauterine fetal therapy at San Cecilio Granada University Hospital
- Postgraduate Certificate Training in obstetric-gynecological ultrasound by the Spanish Society of Gynecology and Obstetrics (SEGO)
- Researcher and Author of scientific articles published in high-impact journals
- Member of the Prenatal Diagnosis Unit at the Human Reproduction Assistance Center of the Canary Islands (FIVAP)

Professors

Dr. Chulilla Pérez, Carolina

- Doctor Specialist in Obstetrics and Gynecology at HU Nuestra Señora of Candelaria
- Professor at the Midwifery Teaching Unit of the Nuestra Señora de Candelaria University Hospital
- Researcher and author of pubications related to maternal-fetal medicine
- Participation as author in papers presented at conferences and courses from the specialty
- Training in Obstetric-Gynecological Ultrasound by the Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Company Calabuig, Ana María

- FEA in Obstetrics and Gynecology at La Fe Polytechnic University Hospital
- Diploma in Fetal Medicine and Surgery from the Fetal Medicine Foundation (King's College Hospital, London)
- Professional Master's Degree in Professional Updating for Obstetricians and Gynecologists from the University of Barcelona
- Master's Degree in Nutrition and Health from the International University of Valencia
- Author of scientific publications in high impact journals and participation in book chapters

Dr. Dévora Cabrera, María Ylenia

- Doctor Specialist in Obstetrics and Gynecology at HU of Canary
- Participation in various research projects in the specialty as well as authorship of book chapters
- Master's Degree in Professional Updating for Gynecologists
- Author of several scientific articles published in national media

Dr. Pérez Gómez, Adela Marina

- FEA in Obstetrics and Gynecology at HU Nuestra Señora of Candelaria
- Degree in Medicine and Surgery, La Laguna University
- Training in Gynecological and Obstetric Ultrasound by the University Hospital of Canarias
- Participation as author in papers presented at conferences and courses related to the specialty

Dr. De Paco Matallana, Catalina

- Specialist in Maternal-Fetal Medicine Unit, Hospital Clínico Universitario Virgen de Zaragoza
- Regular reviewer of articles in international and national journals on Gynecology and Obstetrics
- Associate Professor of Obstetrics and Gynaecology at Murcia University
- PhD in Medicine and Surgery
- Degree in Medicine and Surgery from the University of Murcia
- Specialist MIR in Gynecology and Obstetrics
- Subspecialization in Fetal Medicine and Surgery at the King's College University Hospital in London

Dr. Cuenca Gómez, Diana

- Obstetrics and Gynecology Specialist at the HU of Torrejón de Ardoz
- Specialist in Obstetrics and Gynecology at Ginemad Salazar
- Professor of Clinical Practice for the Medical Degree at the Complutense University of Madrid and at the Francisco de Vitoria University
- Director of the Prenatal Genetics course at the iMaterna Foundation
- Master's Degree in Clinical Genetics from San Pablo University CEU
- Expert in Gynecological and Obstetric Ultrasound by the Complutense University of Madrid and Expert in Clinical Genetics by the University of Alcalá de Henares

tech 16 | Course Management

Dr. De Ganzo Suárez, Tania del Carmen

- Doctor Specialist in Obstetrics and Gynecology at HU Nuestra Señora of Candelaria
- Specialised doctor of the Fetal Medicine Unit, Tenerife Hospiten Group
- Diploma in Fetal Medicine and Surgery from the Fetal Medicine Foundation (King's College Hospital, London). Invasive techniques and intrauterine fetal therapy at San Cecilio Granada University Hospital
- Postgraduate Certificate Training in obstetric-gynecological ultrasound by the Spanish Society of Gynecology and Obstetrics (SEGO)
- Researcher Author of scientific articles published in high-impact journals

Dr. Plasencia Acevedo, Walter

- Doctor Specialist in Obstetrics and Gynecology at HU of Canary
- Specialised doctor of the Fetal Medicine Unit of Canary Hospiten Group
- Doctor in Medicine and Surgery from the University of La Laguna
- Subspecialization in Fetal Medicine and Surgery at the King's College University Hospital in London
- Supervisor of more than 3,000 ultrasound studies per year
- Author of over 50 scientific publications in international high-impact journals
- Director of several national and international research projects on fetal anomalies, placental abnormalities, preeclampsia, preterm delivery and fetal and maternal complications during pregnancy
- Regular reviewer of articles in multiple international and national journals in his specialty

Dr. Molina García, Francisca Sonia

- Medical Specialist in Obstetrics and Gynecology at University Hospital of San Cecilio of Granada
- Head of the Ultrasound Unit of the Gutenberg Center of Granada
- Director of several research lines of funded projects on preeclampsia, preterm delivery, fetal and maternal complications during pregnancy and fetal surgery
- Regular reviewer of articles in five international and national journals on Gynecology and Obstetrics
- Contributing editor of Fetal Diagnosis and Therapy
- European PhD in Medicine and Surgery from the University of Granada
- Subspecialization in Fetal Medicine and Surgery at the King's College University Hospital in London

Dr. Gil Mira, María del Mar

- Obstetrics and Gynecology Specialist at the HU of Torrejón de Ardoz
- Main Researcher at the Torrejón University Hospital
- Director of doctoral theses in the field of Ginecology and Obstrety
- Author of multiple scientific articles published in high-impact journals
- Associate Professor in the Department of Gynecology and Obstrety. Faculty of Medicine. Francisco de Vitoria University (UFV), Madrid
- Co-founder and Vice President of the iMaterna Foundation and leader of the iMaterna research group for the UFV
- Advisor to the Prenatal Screening Working Group. Commissions of Public Health Ministry of Health. Government of Spain
- Doctor of Medicine and Surgery from the Autonomous University of Madrid
- Board member of World Association in Perinatal Medicine (WAMP)
- Editor at Perinatal Journal and Editorial board member of Ultrasound in Obstetrics and Gynecology magazine



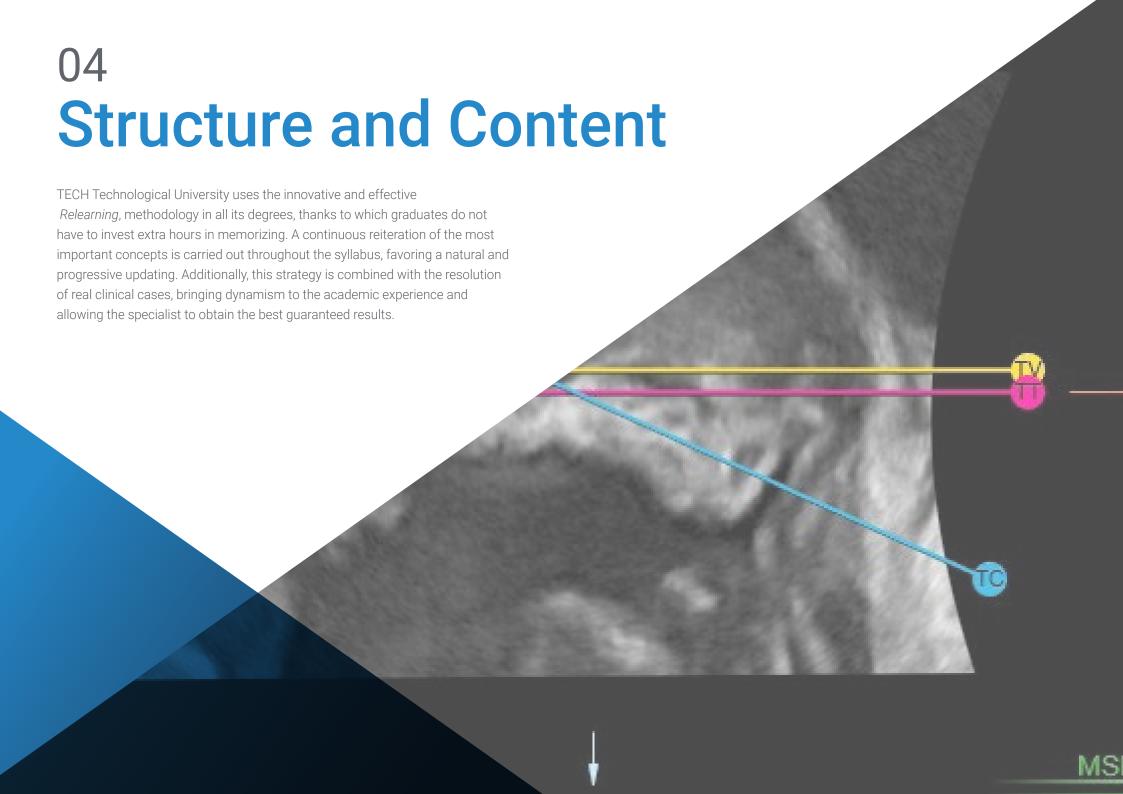
Course Management | 17 tech

Dr. Gibbone, Elena

- Specialist in the Obstetrics and Gynecology Unit of the HU Cruces de Vizcaya
- Specialist at Ecography and Fetal Medicine Unit of Zuatzu clinic
- Researcher in several lines related to Preeclampsia, twin pregnancy and its complications and maternal pathology in pregnancy
- International Doctorate in Biomedical Research, University of the Basque Country
- Graduate in Medicine and Surgery
- Specialist in Gynecology and Obstetrics
- Subspecialization in Fetal Medicine and Surgery at the King's College University Hospital in London
- Subspecialty in Fetal Medicine and Surgery at the San Cecilio Clinical Hospital in Granada
- Author of over 10 scientific publications in international high-impact journals



Take the step to get up to date on the latest developments in Fetal Genetic Diagnosis and Invasive Procedures During Pregnancy"





tech 20 | Structure and Content

Module 1. Screening of Chromosome Abnormalities

- 1.1. Combined Aneuploidy Screening
 - 1.1.1. Basis for Universal Contingent Screening
 - 1.1.2. What does it consist of?
 - 1.1.3. Performance and Limitations
 - 1.1.4. Current Status and Practical Aspects
- 1.2. Screening in Multiple Gestations
 - 1.2.1. Two-Chorionic Twin Pregnancy
 - 1.2.2. Monochorionic Twin Pregnancy
 - 1.2.3. Multiple Gestation of 3 or More Fetuses
 - 1.2.4. Vanishing Twin
- 1.3. Ultrasound Markers of Chromosomopathy
 - 1.3.1. Nuchal Translucency
 - 1.3.2. Nasal Bone
 - 1.3.3. Ductus Venosus
 - 1.3.4. Tricuspid Regurgitation
- 1.4. Non Invasive Prenatal Test (NIPT): test for free fetal DNA circulating in maternal blood
 - 1.4.1. Indications
 - 1.4.2. Conditions for Correct Application
 - 1.4.3. Limitations
 - 1.4.4. Future of Noninvasive Prenatal Diagnosis
- 1.5. Invasive Genetic Diagnostic Tests
 - 1.5.1. Chorionic Biopsy
 - 1.5.2. Amniocentesis
- 1.6. Cytogenetics
 - 1.6.1. QF-PCR
 - 1.6.2. FISH
 - 1.6.3. Karyotype
- 1.7. Microarray
- 1.8. Exome

- 1.9. Genetic Counseling in Practicing Fetal Medicine
 - 1.9.1. The Role of the Geneticist
 - 1.9.2. Genetic Counseling
 - 1.9.3. Interpretation of Genetic Test Results and Implications for the Course of Pregnancy
 - 1.9.4. Pre-pregnancy Study and Counseling
- 1.10. Genomics and Personalised Medicine
 - 1.10.1. Present and Future of Genomic Applications in Fetal Medicine

Module 2. Multiple Gestation

- 2.1. Embryology of Multiple Pregnancy
- 2.2. Early Ultrasound Scanning
- 2.3. Chorionicity and Amnionicity
- 2.4. Two-Chorionic Twin Pregnancy
 - 2.4.1. Obstetric Management
 - 2.4.2. Timing and Route of Delivery
- 2.5. Monochorionic Twin Pregnancy
 - 2.5.1. Obstetric Management
 - 2.5.2. Timing and Route of Delivery
- 2.6. Multiple Gestation of 3 or More Fetuses
- 2.7. Complications of Monochorionic Pregnancy I
 - 2.7.1. TTTS
 - 2.7.2. Selective IUGR
- 2.8. Complications of Monochorionic Pregnancy II
 - 2.8.1. TRAP
 - 2.8.2. TAPS
- 2.9. Discordant Anomalies
- 2.10. Selective Reduction



Structure and Content | 21 tech

Module 3. Intrauterine Fetal Therapy and Invasive Procedures

- 3.1. Fetal Therapy Principles
- 3.2. Training in Fetal Surgery and Other Invasive Procedures
 - 3.2.1. Referral Centers
 - 3.2.2. Learning Curve and Skills Maintenance
- 3.3. Invasive Procedures
 - 3.3.1. Amniocentesis, Chorionic Biopsy and Cordocentesis
 - 3.3.2. Indications and Technique
 - 3.3.3. Contribution of Invasive Procedures in Fetal Surgeries
- 3.4. Fetal and Maternal Anesthesia and Analgesia
- 3.5. EXIT Surgery
 - 3.5.1. Concept and Indications
 - 3.5.2. Evolution and Surgical Technique
- 3.6. Prenatal Treatment of Spina Bifida
 - 3.6.1. Indications and Approaches
 - 3.6.2. Prognosis and Post-Surgical Results
- 3.7. Ultrasound-Guided Procedures
 - 3.7.1. Shunts
 - 3.7.2. Intrauterine Transfusion
 - 3.7.3. Selective Cord Occlusion
 - 3.7.4. Amnioinfusion/Amniodrainage
- 3.8. Fetoscopic Procedures
 - 3.8.1. Clinical Situations Susceptible to Prenatal Surgery: HDC, Bridle, MC, etc
 - 3.8.2. Approach, Indications and Technique
 - 3.8.3. Postnatal Results
- 3.9. Cardiac Intervention and Treatment of Arrhythmias
- 3.10. Present and Future of Fetal Surgery



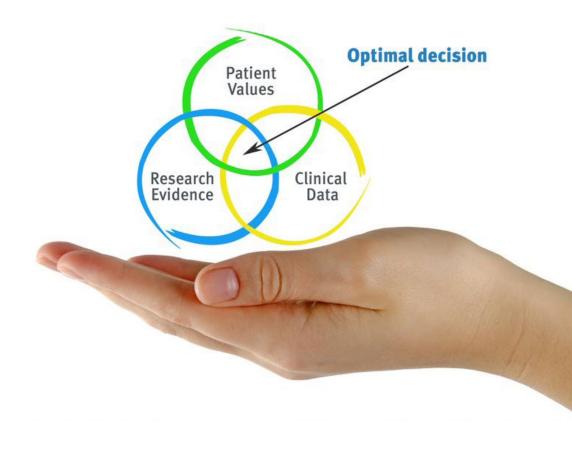


tech 24 | Methodology

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 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.



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:

- 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.





Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This 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, a real revolution with respect to the mere study and analysis of cases.

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.



Methodology | 27 tech

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 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 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.

tech 28 | Methodology

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

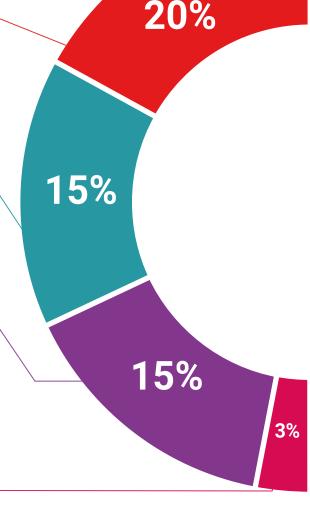
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many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



Classes

There is scientific evidence on the usefulness of learning by observing experts.

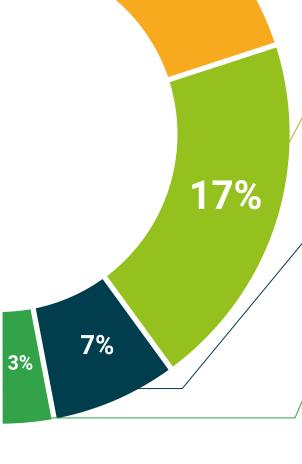
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



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.









tech 32 | Certificate

This Postgraduate Diploma in Fetal Genetic Diagnosis and Invasive Procedures During Pregnancy 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

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

Title: Postgraduate Diploma in Fetal Genetic Diagnosis and Invasive Procedures

During Pregnancy

Official No of Hours: 450 h.



^{*}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.

health

guarantee

technological
university

Postgraduate Diploma

Fetal Genetic Diagnosis and Invasive Procedures During Pregnancy

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

