

Postgraduate Certificate

First Trimester Ultrasound





Postgraduate Certificate First Trimester Ultrasound

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

Website: www.techtute.com/us/medicine/postgraduate-certificate/first-trimester-ultrasound

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Course Management

p. 12

04

Structure and Content

p. 16

05

Methodology

p. 20

06

Certificate

p. 28

01

Introduction

The use of ultrasound in the first trimester of gestation has proven to be a key tool for the early detection of fetal anomalies and the screening of Chromosomopathies. Along these lines, new techniques and study protocols have been developed that have allowed greater precision and reliability in prenatal diagnosis, thus favoring the well-being of the fetus. Thus, physicians must integrate these advances into their daily practice to avoid lagging behind the evolution of their field. For this reason, TECH has created this program, which will allow the specialists to learn about the latest ultrasound methods that optimize the detection of morphological pathology or to identify the latest ultrasound markers of diseases. In addition, it will do so 100% online and without pre-established schedules.



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*Learn about the latest advances in
ultrasound markers of diseases through this
Postgraduate Certificate”*

First Trimester Ultrasound is an area that is constantly evolving due to advances in technology and the increasing social demand for accurate medical care during this phase of pregnancy. Thanks to this tool, it is possible to know the state of health of the fetus in real time with complete accuracy, detecting its needs to ensure its proper development. As a result, the need to update knowledge in this field has become a fundamental challenge for all those doctors who wish to improve their daily practice in this area.

That is why TECH has designed this Postgraduate Certificate, through which the students will identify the most recent advances in the field of First Trimester Ultrasound. During 150 hours of intensive teaching, the students will delve into the latest scientific evidence regarding the ultrasound markers of first trimester chromosomopathy, as well as those of intracranial translucency or uterine arteries. Similarly, it will delve into the evolution of screening for Aneuploidy or Preeclampsia.

In addition, the program is taught through a 100% online methodology, which will allow professionals to advance in the Postgraduate Certificate according to their availability and pace of work. Likewise, the program has a teaching team made up of specialists in the field who will accompany students throughout the learning process, providing them with the most cutting-edge knowledge in First Trimester Ultrasound.

This **Postgraduate Certificate in First Trimester Ultrasound** contains the most complete and updated scientific program on the market. Its most outstanding features are:

- ♦ The development of practical cases presented by experts Obstetric and Gynecologic Ultrasound
- ♦ Graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ 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



Get updated in First Trimester Ultrasound in a completely agile and simple way”

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The Postgraduate Certificate in First Trimester Ultrasound will allow you to identify the updated techniques for Aneuploidy screening”

The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned experts.

Study completely online and without neglecting your personal and professional duties.

Do not miss this opportunity, enroll to be updated by the hand of the best specialists in Obstetric and Gynecological Ultrasound!.



02

Objectives

The Postgraduate Certificate has been designed to provide students with the most up-to-date knowledge of First Trimester Ultrasound in just 6 weeks. During the course of the program, professionals will be immersed in the most recent advances in the diagnosis of pathologies that usually occur in this period of time. This learning will be guaranteed through the achievement of the following general and specific objectives.





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Increase and update your knowledge in the management of First Trimester Ultrasound in only 150 hours”



General Objectives

- ♦ In-depth knowledge of the normal gynecological and obstetric ultrasound study, as well as the most commonly used techniques
- ♦ Have an in-depth knowledge of the malformations that can be diagnosed in the first trimester of gestation and the ultrasound markers, as well as the invasive techniques and screening for aneuploidy and preeclampsia and the usefulness of fetal DNA in maternal blood
- ♦ Study the diagnosable pathology in the third trimester as well as intrauterine growth restriction and fetal hemodynamics, correctly applying maternal-fetal Doppler
- ♦ Learn the most important concepts about fetal neurosonography and echocardiography as well as the most relevant pathologies
- ♦ Study multiple gestation (monochorionic and bicorionic) and its most frequent complications





Specific Objectives

- Understand the normal ultrasound study of the first trimester ultrasound
- Study ultrasound of uncertain location and its management, as well as the usefulness of ultrasound study in the management of early gestation
- Understand the main first trimester ultrasound markers, both of aneuploidy and of other pathologies
- Learn the main malformations that can be diagnosed in the first trimester
- Have an in-depth knowledge of aneuploidy screening and first trimester preeclampsia screening
- Understand the use of fetal DNA in maternal blood, as well as the basic principles of genetics in obstetrics



Achieve the objectives that TECH has set for this program and be at the forefront of First Trimester Ultrasound”

03

Course Management

In order to preserve a high quality academic level, TECH has selected an excellent teaching staff made up of experienced specialists in the field of Obstetric and Gynecologic Ultrasound to teach this program. These experts are responsible for the creation of the didactic resources that will be used throughout the program, which ensures that the knowledge obtained by the students will be highly useful in their daily practice.





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*From the hand of the best specialists,
you will complete your update in First
Trimester Ultrasound”*

Management



Dr. García-Manau, Pablo

- ◆ Obstetrician and Gynecologist at Quirónsalud Hospital in Barcelona
- ◆ Assistant Physician of the Gynecology and Obstetrics Service at the University Hospital of Santa Creu i Sant Pau
- ◆ Specialist in Maternal-Fetal Medicine
- ◆ Specialist in Obstetric Ultrasound and Fetal Echocardiography
- ◆ Member of: Catalan Society of Obstetrics and Gynecology (SCOG), Spanish Society of Gynecology and Obstetrics (SEGO)

Professors

Dr. López-Quesada, Eva

- ◆ Coordinator of the Obstetrics and Gynecology Service at the University Hospital Mútua Terrassa
- ◆ Specialist in Prenatal Diagnosis and Maternal-Fetal Medicine
- ◆ PhD from the Autonomous University of Barcelona
- ◆ Postgraduate in Fetal Medicine and in Clinical Genetics and Genomics
- ◆ Member of: Clinical Commission for Quality Control of First Trimester Ultrasound of Catalonia, Catalan Society of Obstetrics and Gynecology (SCOG), Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Mendoza, Manel

- ◆ Head of the Placental Insufficiency Unit of the Obstetrics Department at Vall d'Hebron University Hospital
- ◆ Specialist of the Obstetrics Service of the Vall d'Hebron University Hospital
- ◆ Doctor from the Autonomous University of Madrid
- ◆ Specialist in Maternal-Fetal Medicine
- ◆ Member of: Member of the Maternal-Fetal Medicine Section of the Catalan Society of Obstetrics and Gynecology (SCOG), the Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Urquizu, Xavier

- ♦ Specialist of the Obstetrics and Gynecology Service at the University Hospital Mútua Terrassa
- ♦ Specialist in Maternal-Fetal Medicine
- ♦ PhD from the University of Barcelona
- ♦ Member of: Catalan Society of Obstetrics and Gynecology (SCOG) and Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Codina, Laura

- ♦ Specialist of the Obstetrics and Gynecology Service at the University Hospital Mútua Terrassa
- ♦ Specialist in Prenatal Diagnosis and Maternal-Fetal Medicine
- ♦ Member of: Catalan Society of Obstetrics and Gynecology (SCOG) and Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Cabello, Eloy

- ♦ Specialist of the Obstetrics and Gynecology Service at the University Hospital Mútua Terrassa
- ♦ Specialist in Prenatal Diagnosis and Maternal-Fetal Medicine
- ♦ Member of: Catalan Society of Obstetrics and Gynecology (SCOG) and Spanish Society of Gynecology and Obstetrics (SEGO)

Dr. Trilla, Cristina

- ♦ Specialist in Prenatal Diagnosis at the Santa Creu i Sant Pau Hospital
- ♦ Fertility Specialist at Clínica Fertty. Barcelona
- ♦ PhD in Medicine, Autonomous University of Barcelona
- ♦ Member of: Section of Maternal-Fetal Medicine of the Catalan Society of Obstetrics and Gynecology (SCOG), International Society of Ultrasound in Obstetrics & Gynecology (ISUOG)

Dr. Sánchez, María Ángeles

- ♦ Head of the Prenatal Diagnostic Unit of the Obstetrics Service at the Vall d'Hebron University Hospital
- ♦ Specialist of the Obstetrics Service at the Vall d'Hebron University Hospital
- ♦ Specialist in Prenatal Diagnosis and Maternal-Fetal Medicine
- ♦ Doctor of Medicine from the University of Barcelona
- ♦ Member of: Catalan Society of Obstetrics and Gynecology (SCOG), Spanish Society of Gynecology and Obstetrics (SEGO)

04

Structure and Content

The syllabus of this program has been specifically designed to provide specialists with the latest updates in First Trimester Ultrasound. All the didactic contents of this program are presented in different formats, such as videos, reading materials and interactive summaries, which provides students with great flexibility and ease of study. In addition, the online learning modality allows them to manage their time according to their needs and work or personal commitments.



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The Relearning system of this program enables you to study at your own pace and without time constraints”

Module 1. First Trimester Ultrasound

- 1.1. Protocol for the study of first trimester ultrasound, normalcy
 - 1.1.1. Gestational age and dating
 - 1.1.2. Anatomic examination
 - 1.1.3. Measurement of markers of aneuploidy
 - 1.1.4. Placenta, uterus and adnexa
- 1.2. Uncertain Location Pregnancy
 - 1.2.1. Differential Diagnosis
 - 1.2.2. Blood Biochemistry
 - 1.2.3. Action Protocol
- 1.3. Early gestation (trophoblastic disease, amnios, vesicles, etc.)
 - 1.3.1. Gestational sac
 - 1.3.2. Yolk vesicle
 - 1.3.3. Amniotic and chorionic cavity
 - 1.3.4. Embryo
 - 1.3.5. Early embryonic development
 - 1.3.6. Early pathology
 - 1.3.7. Findings of poor gestational prognosis
- 1.4. Ultrasound markers of first trimester chromosomopathy
 - 1.4.1. Introduction
 - 1.4.2. Nuchal translucency
 - 1.4.3. Nasal bone
 - 1.4.4. Venous ductus
 - 1.4.5. Tricuspid Regurgitation
- 1.5. Other first trimester ultrasound markers (angulopathy, trans intracranial, uterine, etc.)
 - 1.5.1. Intracranial translucency
 - 1.5.2. Frontomaxillary angle
 - 1.5.3. Retronasal triangle
 - 1.5.4. Uterine arteries
- 1.6. Diagnosable morphologic pathology in the first trimester
 - 1.6.1. Cranial and central nervous system pathology
 - 1.6.2. Face
 - 1.6.3. Skeletal System
 - 1.6.4. Thorax and neck
 - 1.6.5. Heart
 - 1.6.6. Abdomen
 - 1.6.7. Urinary System
- 1.7. First trimester aneuploidy screening
 - 1.7.1. History of aneuploidy screening
 - 1.7.2. Blood Biochemistry
 - 1.7.3. Ultrasound markers
 - 1.7.4. Study Protocol
- 1.8. Fetal DNA in maternal blood (also in twins)
 - 1.8.1. History of fetal DNA
 - 1.8.2. Methods of Analysis
 - 1.8.3. Practical Aspects
 - 1.8.4. Fetal fraction and absence of result
 - 1.8.5. Fetal DNA in twins
 - 1.8.6. Microdeletions
 - 1.8.7. Interpretation of results and protocol
- 1.9. First trimester preeclampsia screening
 - 1.9.1. History of preeclampsia screening
 - 1.9.2. Types of screening
 - 1.9.3. Components of screening
 - 1.9.4. Available calculators
 - 1.9.5. Cut-off points and prevention
 - 1.9.6. Follow-up in high risk of preeclampsia



- 1.10. Invasive Techniques
 - 1.10.1. Amniocentesis
 - 1.10.2. Chorion Biopsy
 - 1.10.3. Multiple Gestation
- 1.11. Basic genetics in obstetrics
 - 1.11.1. Genetic Concepts
 - 1.11.2. Mendelian Genetics
 - 1.11.3. Non-Mendelian genetics
 - 1.11.4. Prenatal genetic testing

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Obtain the most advanced knowledge in First Trimester Ultrasound through this complete Postgraduate Certificate”

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **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.



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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 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.



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.



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.



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.



06 Certificate

The Postgraduate Certificate in First Trimester Ultrasound guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This program will allow you to obtain your **Postgraduate Certificate in First Trimester Ultrasound** 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 First Trimester Ultrasound**

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.



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