



Postgraduate Certificate

Update on Inborn Errors of Metabolism

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Credits: 8 ECTS

» Schedule: at your own pace

» Exams: online

 $We bsite: {\color{blue}www.techtitute.com/us/medicine/postgraduate-certificate/update-inborn-errors-metabolism}$

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tech 06 | Introduction

In recent years we have witnessed a considerable increase in the demand for neuropediatric care, which can be justified for several reasons.

On the one hand, the continuous advances in neurosciences have led to the discovery and diagnosis of previously unknown neurological diseases. This has led to the death of children or the development of severe sequelae.

On the other hand, the appearance of social changes and advances have led to new care demands that had been previously underdeveloped. The rise of assisted reproduction and the improvement of neonatal care techniques lead to a higher rate of multiple and premature births with increased survival rates. This leads to increased morbidity and the need for more specialized care at both the health and educational levels.

General pediatricians cannot encompass the complexity of all pediatric subspecialties. As they progress in their development, each one of them acquires a specific body and entity to become its own specialty. In addition, the particularities of child development and its variability according to age and other factors do not allow neurologists for adults to cope with the existing demand.

All this, together with the great diversity and complexity of neurological disorders in childhood, means that more and more neuropediatric units are needed and the demand for highly trained professionals in this area is increasing.

This **Postgraduate Certificate in Update on Inborn Errors of Metabolism** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of clinical cases presented by experts in pediatric Neurology. 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
- Diagnostic and therapeutic novelties on pediatric neurology performance
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- With a special emphasis on evidence-based medicine and research methodologies in Pediatric Neurology
- 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



Update your knowledge through the Postgraduate Certificate in Update on Inborn Errors of Metabolism, in a practical way and adapted to your needs"

The program includes real clinical cases and exercises to bring the development of the Postgraduate Certificate closer to the physician's clinical practice.

Forming part of the teaching staff is a group of professionals in the field of Pediatric Neurology, who contribute their work experience to this program, as well as a group of renowned specialists, recognized by esteemed scientific communities.

Thanks to its multimedia content developed with the latest educational technology, it will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare for real situations.

This program is designed around Problem-Based Learning, whereby the students must try to solve the different professional practice situations that arise during the academic program. For this reason, you will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of pediatric neurology with extensive teaching experience.

Make the most of the opportunity to update your knowledge in Update on Inborn Errors of Metabolism and improve your patient care.







tech 10 | Objectives



General Objectives

- Update specialist knowledge in the different syndromic disorders in this discipline through evidence-based medicine
- Promote work strategies based on a comprehensive approach and multidisciplinary care in the patient's social environment that become a reference model for achieving excellence in care
- Encourage the learning of technical skills and abilities, through a powerful audiovisual system, and the possibility of development through online workshops for simulation and/or specific specialization
- Encourage professional stimulation through continued specialization and research







Specific Objectives

- Explain the usefulness of genetic studies and biochemical studies
- Identify the main congenital diseases
- Diagnose the metabolism of the patients and identify their deficiencies



Make the most of the opportunity and take the step to get up to date on the latest developments in Inborn Errors of Metabolism"





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Management



Dr. Fernández Fernández, Manuel Antonio

- Director of the Andalusian Institute of Pediatric Neurology. Sevilla, España
- Director of the Pediatric Neurology Area at Hospital San Agustír
- Director of the Pediatric Neurology Area at Hospital Quirónsalud Infanta Luisa
- Accreditation in Neuropediatrics by the Spanish Society of Pediatric Neurology (SENEP).
- Degree in Medicine and Surgery, University of Cadiz.
- Master's Degree in Healthcare Services Management and Planning. CTO Business School
- Master's Degree in Entrepreneurship from GADE Business School
- Master's Degree in Leadership and Management Skills from GADE Business School.
- Master's Degree in Clinical Trials from the University of Seville
- Member of: Spanish Association of Pediatrics (AEP), Spanish Association for Research on Inborn Errors of Metabolism (AEIEIM),
 Spanish Society of Inborn Errors of Metabolism (AECOM), Spanish Society of Primary Care Pediatrics (SEPEAP), Sociedad Española
 de Psiquiatría Infantil (SEPI), Sociedad Española de Pediatría Hospitalaria (SEPHO), European Paediatric Academy (EAP), Child
 Neurology Society (USA), European Pediatric Association (EPA/UNEPSA), World Federation of ADHD Associations (WFDAH), World
 Federation of ADHD Associations (WFDAH), World Federation of ADHD Associations (WFA).



Dr. Fernández Jaén, Alberto

- Head of the Child Neurology Department Quirón University Hospital, (Madrid)
- CADE Medical Director
- Degree in Medicine and Surgery
- Specialist in Child Neurology
- Author and contributor in scientific papers.

Professors

Dr. Hidalgo Vicario, MARÍA Inés

- Medical Specialist in Primary Care Pediatrics at the University Children's Hospital Niño Jesús.
- President of the Spanish Society of Adolescent Medicine
- Childcare Physician at the Ministry of Health and Consumer Affairs
- National Member of the Board of Directors of the Spanish Association of Pediatrics.
- Doctorate in Medicine from the Autonomous University Madrid

Dr. Eiris Puñal, Jesús

- Head of the Pediatric Neurology Unit, Santiago de Compostela University Hospital Complex
- Specialist physician at Hospital General de Galicia de Santiago de Compostela.
- PhD in Medicine and Surgery from the University of Santiago de Compostela.
- Member of: Spanish Society of Pediatrics, Spanish Society of Pediatric Neurology

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Dr. Fernández Mayoralas, Daniel Martín

- Neuropediatrician at Gandía Hospital
- · Neuropediatrician at La Zarzuela Hospital
- Assistant Physician, Child Neurology Service, Hospital Universitario Quirónsalud Madrid
- Author of the book "Specialization in Hearing and Language. Anatomy, physiology, and neurology of language
- PhD in Medicine and Surgery from the University of Murcia
- Degree in Medicine and Surgery from the Faculty of Medicine of the Murcia University
- Doctor with a Cum Laude doctoral thesis in Medicine and Surgery from the University of Murcia
- Master's Degree in Neuropediatrics from the Complutense University of Madrid
- Member of: The Spanish Society of Pediatric Neurology (SENEP), The Spanish Society of Pediatrics (SEP), The Society of Pediatrics of Madrid and Castilla-La Mancha

Dr. Amado Puentes, Alfonso

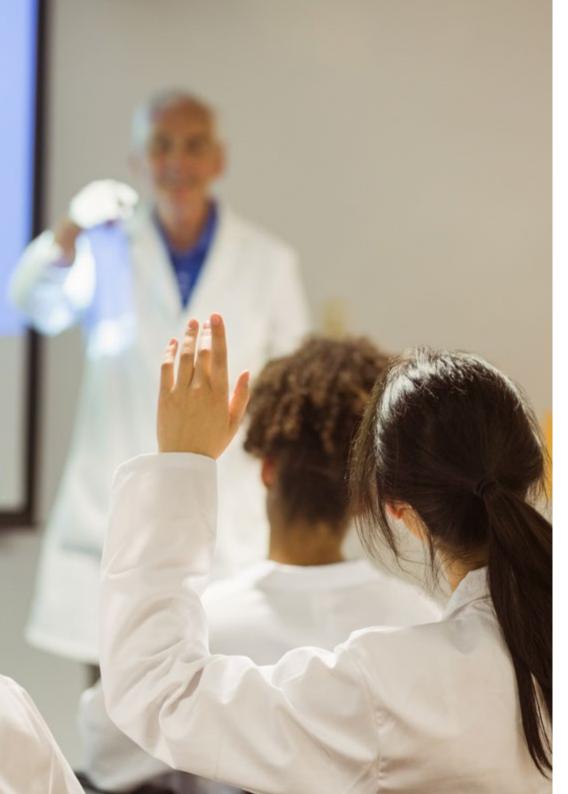
- Pediatric Physician at Amado Pediatric Clinic SLP
- Founder and Physician of La Ruta Azul
- Faculty Specialist in Neuropediatrics
- Pediatric Neurologist at the University Hospital Complex of Vigo.
- Degree in Medicine and Surgery from the University of Santiago de Compostela
- Doctoral Thesis from the University of Santiago de Compostela
- Diploma of Advanced Studies from the University of Vigo
- Master in Pediatric Neurology and Neurodevelopment. CEU Cardenal Herrera University

Dr. Ros Cervera, Gonzalo

- Neuropediatrician at IMED Valencia
- Neuropediatrician at General University Hospital d' Elda
- Neuropediatrician at Xàtiva Hospital
- Neuropediatrician at Valencian Institute of Neurosciences(IVANN)
- Neuropediatrician at Hospital Francesc de Borja
- Specialist in the Department of Pediatrics at Hospital del Vinalopó
- Degree in Medicine and Surgery from the University of Valencia
- Postgraduate Diploma via MIR as a family physician at the University Hospital Vall d'Hebrón
- Specialization via MIR in Pediatrics and its Specific Areas at the University Hospital La Fe of Valencia
- Sub-specialization in Neuropediatrics in the Department of Child Neurology at the University Hospital La Fe
- Training stay at the Neurology Department of the Children's Hospital Sant Joan de Déu in Barcelona
- International training stay at the Children's Hospital of Sankt Gallen in Switzerland
- Graduate in Research Sufficiency in the Autonomous University of Barcelona
- Neuropediatrician accredited by the Spanish Association of Pediatrics

Dr. Téllez de Meneses Lorenzo, Montserrat Andrea

- Pediatric Neurologist specialized in Autism and Communication Disorders
- Specialist Physician at Hospital Policlínico y Universitario La Fe
- Pediatric Neurologist in Neural Neurological Rehabilitation Clinics
- PhD in Medicine and Surgery from the University of Valencia
- Member of the English Society of Pediatrics



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Dr. Málaga Diéguez, Ignacio

- Pediatrician Expert in Neuropediatrics
- Assistant Physician of the Neuropediatrics Unit at the University Hospital Central de Asturias
- Neuropediatrician in the Neurological Institute Doctor Mateos
- Author of publications in national and international scientific journals
- Professor in undergraduate and postgraduate university studies
- Doctor of Medicine, University of Oviedo
- Master's Degree in Child Neurology, University of Barcelona
- Member of: SENEP, AEP, EPNS, ILAE, SCCALP

Dr. Gilibert Sánchez, Noelia

- Neuropsychologist at Andalusian Institute of Pediatric Neurology
- Collaborator of the project The Neuropediatrician of Online Consultations
- Master's in Advanced Studies in Brain and Behavior in the University of Seville
- Degree in Psychology in the University of Seville

Dr. Fernández Perrone, Ana Laura

- Pediatric Neurology Specialist
- Pediatric Neurologist at Quirón Salud University Hospital
- Hospital Complex Ruber Juan Bravo de Quirónsalud
- Member of the Spanish Society of Neurology

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Dr. Carvalho Gómez, Carla

- Specialist in Pediatric Neuropsychology
- Neuropsychology in the La Fe University Hospital from Valencia
- Specialist in Neuropsychology at at Virgen de La Macarena University Hospital
- Professor in Neuropsychology Andalusian Institute of Pediatric Neurology
- Neuropsychology teacher at the European Institute of Neuropsychology
- Lecturer in the Master's Degree in Pediatric Neurology and Neurodevelopment from CEU Cardenal Herrera University
- Degree in Psychology with a Specialization in Neuropsychology from the University of Seville
- Master's Degree in Advanced Studies in Brain and Behavior by the University of Seville
- Postgraduate PROFESSIONAL MASTER'S DEGREE in General Health Psychology, University of La Rioja
- Master's Degree in Functional Criteria Neuropsychology from the Pablo Olavide University

Dr. Lorenzo Sanz, Gustavo

- Head of the Neurodevelopment Unit of Child Neurology at the Ramón y Cajal Hospital in Madrid
- Associate Professor, University of Alcalá
- Doctor of Medicine and Surgery
- Specialist in pediatrics with Accreditation in pediatric Neurology diseases
- Author of more than 200 research papers in national and international journals
- Principal investigator and collaborator in numerous internationally funded research projects





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Dr. Barbero Aguirre, Pedro

- Pediatric Neurologist Specialized in ADHD
- Head of the Neurodevelopment Unit at the University Hospital and Polytechnic La Fe.
- Faculty Specialist in Pediatric Neurology at 9 de Octubre Hospital
- Specialist physician at Casa de Salud Hospital

Dr. Lefa Sarane, Eddy Ives

- Pediatrician Specializing in Child and Adolescent Psychiatry at HM Hospital
- Pediatrician at HM Nens Hospital
- Pediatrician in HM Sant Jordi Hospital
- Lecturer of Master's Degree in Academic Institutions
- Doctor of Medicine
- Degree in Medicine and Surgery from the University of Barcelona.
- Master's Degree in Paedopsychiatry and Child and Adolescent Psychology from the Autonomous University of Barcelona.
- Master's Degree in Neuropediatrics and Neurodevelopment by Cardenal Herrera University
- Coordinator of the ADHD Working Group of the Spanish Society of Adolescent Medicine (SEMA).
- Member of: Board of Directors of the Society of Child Psychiatry of the Spanish
 Association of Pediatrics, Advisory Committee of the Adana Foundation (Insomnia
 Association for Children, Adolescents and Adults), Pedagogical Committee of the
 Training Program for the Promotion of Child and Adolescent Mental Health from
 Pediatrics of the Catalan Institute of Health





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Module 1. Update on Inborn Errors of Metabolism

- 1.1. Introduction to Inborn Errors of Metabolism (IEM)
 - 1.1.1. Introduction and Concept
 - 1.1.2. Etiology and Classification
 - 1.1.3. Clinical Manifestations
 - 1.1.4. General Diagnostic Process
 - 1.1.5. General Intervention Guidelines
- 1.2. Mitochondrial Diseases
 - 1.2.1. Oxidative Phosphorylation Defects
 - 1.2.2. Krebs Cycle Defect
 - 1.2.3. Etiology and Pathophysiology
 - 1.2.4. Classification
 - 1.2.5. Diagnosis
 - 1.2.6. Treatment
- 1.3. Fatty Acid Beta-Oxidation Defects
 - 1.3.1. Introduction to Beta-oxidation Disorders
 - 1.3.2. Pathophysiology of Beta-oxidation Disorders
 - 1.3.3. Clinical Beta-oxidation Disorders
 - 1.3.4. Diagnosis of Beta-oxidation Disorders
 - 1.3.5. Treatment Beta-oxidation Disorders
- 1.4. Gluconeogenesis Defects
 - 1.4.1. Etiology and Pathophysiology
 - 142 Classification
 - 1.4.3. Diagnosis
 - 144 Treatment
- 1.5. Peroxisomal Diseases
 - 1.5.1. Zellweger Syndrome
 - 1.5.2. X-Linked Adrenoleukodystrophy
 - 1.5.3. Other Peroxisomal Diseases

- 1.6. Congenital Disorders of Glycosylation
 - 1.6.1. Etiology and Pathophysiology
 - 1.6.2. Classification
 - 1.6.3. Diagnosis
 - 1.6.4. Treatment
- 1.7. Neurotransmitter IEM
 - 1.7.1. Introduction to Neurotransmitter Metabolic Diseases
 - 1.7.2. General Concepts of Neurotransmitter Metabolic Diseases
 - 1.7.3. GABA Metabolism Disorders
 - 1.7.4. Biogenic Amine Disorder
 - 1.7.5. Startle Disease or Hereditary Hyperekplexia
- 1.8. Creatine Brain Defects
 - 1.8.1. Etiology and Pathophysiology
 - 1.8.2. Classification
 - 1.8.3. Diagnosis
 - 1.8.4. Treatment
- 1.9. Aminoacidopathies
 - 1.9.1. Phenylketonuria
 - 1.9.2. Hyperphenylalaninemia
 - 1.9.3. Tetrahydrobiopterin Deficiency
 - 1.9.4. Non-Ketotic Hyperglycemia
 - 1.9.5. Maple Syrup Urine Disease
 - 1.9.6. Homocystinuria
 - 1.9.7. Tyrosinemia Type II
- 1.10. Purines and Pyrimidines IEM
 - 1.10.1. Etiology and Pathophysiology
 - 1.10.2. Classification
 - 1.10.3. Diagnosis
 - 1.10.4. Treatment



Structure and Content | 23 tech

1.11. Lysosomal Diseas	ises
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- 1.11.1. Mucopolysaccharidosis
- 1.11.2. Oligosaccharidosis
- 1.11.3. Sphingolipidosis
- 1.11.4. Other Lysosomal Diseases

1.12. Glycogenosis

- 1.12.1. Etiology and Pathophysiology
- 1.12.2. Classification
- 1.12.3. Diagnosis
- 1.12.4. Treatment

1.13. Organic Acidemias

- 1.13.1. Methylmalonic Acidemia
- 1.13.2. Propionic Acidemia
- 1.13.3. Isovaleric Acidemia
- 1.13.4. Glutaric Aciduria Type I
- 1.13.5. 3-Methyl Crotonyl Glyciduria
- 1.13.6. Holocarboxylase Synthetase Deficiency
- 1.13.7. Biotinidase Deficiency
- 1.13.8. 3-Methylglutaconyl Aciduria Type I
- 1.13.9. 3-Methylglutaconyl Aciduria Type III
- 1.13.10. D-2 Hydroxyglutaric Aciduria
- 1.13.11. L-2 Hydroxyglutaric Aciduria
- 1.13.12. 4-Hydroxybutyric Aciduria
- 1.13.13. Deficiency of Acetoacetyl CoA-Thiolase

1.14. Carbohydrates IEM

- 1.14.1. Etiology and Pathophysiology
- 1.14.2. Classification
- 1.14.3. Diagnosis
- 1.14.4. Treatment





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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 | 29 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.

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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

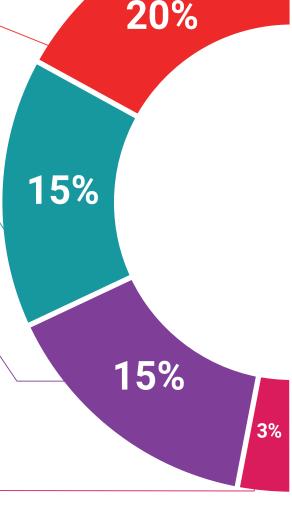
TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many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

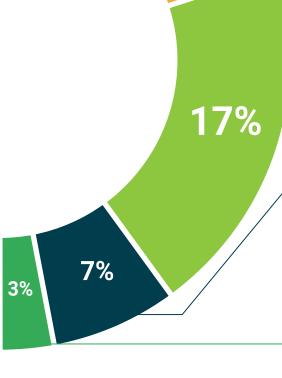
The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



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.









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This program will allow you to obtain your **Postgraduate Certificate in Update on Inborn Errors of Metabolism** 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 Update on Inborn Errors of Metabolism

Modality: online

Duration: 6 weeks

Accreditation: 8 ECTS



Mr./Ms. _____, with identification document _____ has successfully passed and obtained the title of:

Postgraduate Certificate in Update on Inborn Errors of Metabolism

This is a program of 240 hours of duration equivalent to 8 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024



^{*}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.



Postgraduate Certificate

Update in Inborn Errors of Metabolism

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 8 ECTS
- » Schedule: at your own pace
- » Exams: online

