

# Postgraduate Certificate Mathematical Learning Difficulties (MLD)





## Postgraduate Certificate Mathematical Learning Difficulties (MLD)

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

Website: [www.techtitude.com/us/education/postgraduate-certificate/mathematical-learning-difficulties-mld](http://www.techtitude.com/us/education/postgraduate-certificate/mathematical-learning-difficulties-mld)

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01

# Introduction to the Program

In the classroom, mathematical comprehension represents one of the greatest challenges for teachers and educators. In fact, difficulties in this area not only affect academic performance but also impact students' cognitive development. In light of recent research, the importance of detecting and addressing these obstacles from an integrated didactic, neuropsychological, and pedagogical approach is recognized. For this reason, TECH has designed this university program to respond to the real needs of the current educational environment with a rigorous, accessible, and up-to-date syllabus. Through a fully online methodology and an entirely updated syllabus, enrolled teachers will acquire specific knowledge in neuroeducation and mathematics teaching.





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*You will be part of a generation of professionals committed to transforming mathematics education with a more inclusive, scientific, and classroom-adapted perspective”*

Logical-mathematical skills are essential for daily life, but their acquisition presents significant challenges in the school environment. It is estimated that between 5% and 8% of students face persistent difficulties in this area, which affects their academic development and full integration into the educational system. These challenges are not always linked to intellectual capacity, but may stem from neurobiological, emotional, methodological, or contextual factors that require a specialized and up-to-date approach.

In the face of this reality, education professionals must understand the mechanisms that contribute to these difficulties, designing pedagogical strategies tailored to each situation. In response to this need, TECH has developed the Postgraduate Certificate in Mathematical Learning Difficulties (MLD). Through a rigorous academic experience and an interdisciplinary approach, professionals will be prepared to identify the different types of obstacles affecting the acquisition of mathematical knowledge, from Dyscalculia (Mathematical Learning Disorder) to didactic barriers in diverse contexts.

Throughout the academic path, theoretical and practical content will be covered, integrating contributions from neuroeducation, learning psychology, mathematics didactics, and attention to diversity. Moreover, this perspective will allow educators to intervene effectively in school or psychopedagogical environments and participate in educational inclusion projects.

Additionally, this university qualification will be developed under a 100% online methodology, with no rigid schedules and permanent access to educational materials. At the same time, the implementation of the Relearning method will facilitate knowledge updating, transforming training into a more dynamic and effective process. As a result, graduates will be able to advance flexibly while enhancing their profile to take on new challenges in the field of mathematics education.

This **Postgraduate Certificate in Mathematical Learning Difficulties (MLD)** contains the most complete and up-to-date university program on the market.

Its most notable features are:

- ♦ The development of practical cases presented by experts in Education
- ♦ 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
- ♦ Practical exercises where the self-assessment process can be carried out 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



*You will explore in depth the cognitive processes underlying numerical learning. What are you waiting for to enroll and acquire key tools that will allow you to intervene in dyscalculia and other specific difficulties?*

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*The 100% online methodology will allow you to progress at your own pace, with no fixed schedule, and with permanent access to content created by experts in neurocognition and didactics”*

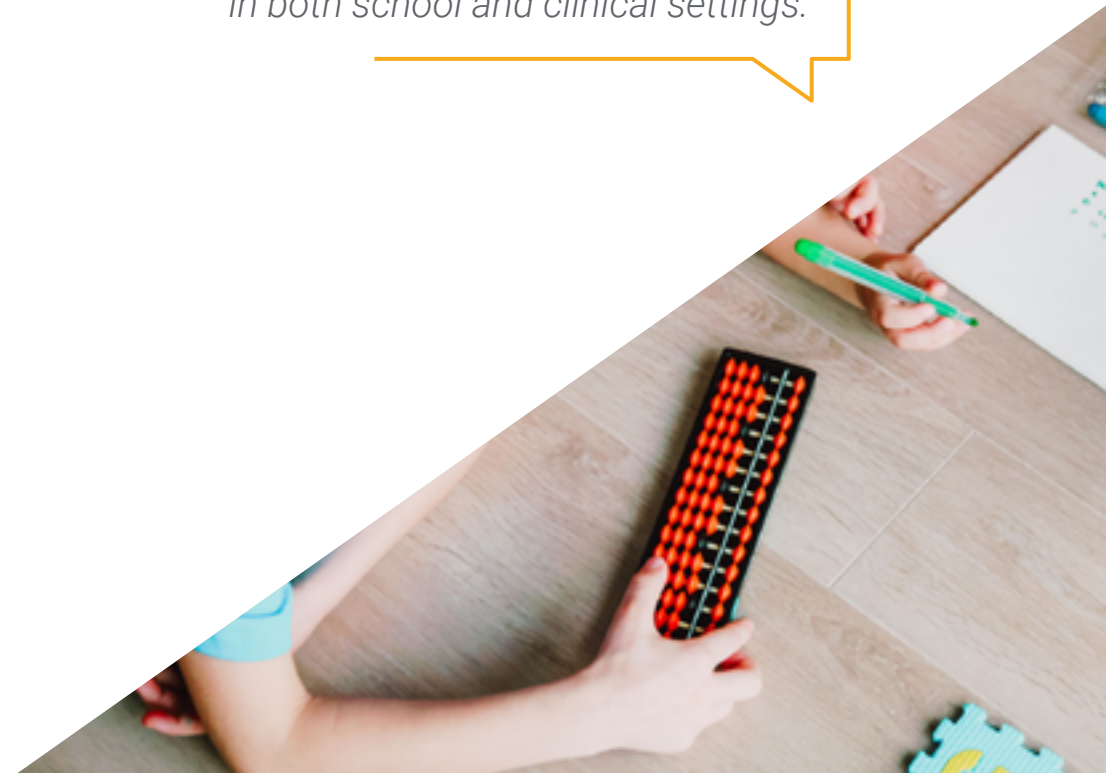
The program includes a faculty of professionals from the field of education, who bring their practical experience to the course, as well as recognized specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

*TECH will provide you with a distinguished teaching team that combines academic research, practical experience, and a commitment to educational improvement.*

*You will enhance your professional profile in the educational field with advanced tools for designing intervention and support programs in both school and clinical settings.*



02

# Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.





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*Study at the largest online university in the world and ensure your professional success. The future begins at TECH”*

### The world's best online university, according to FORBES

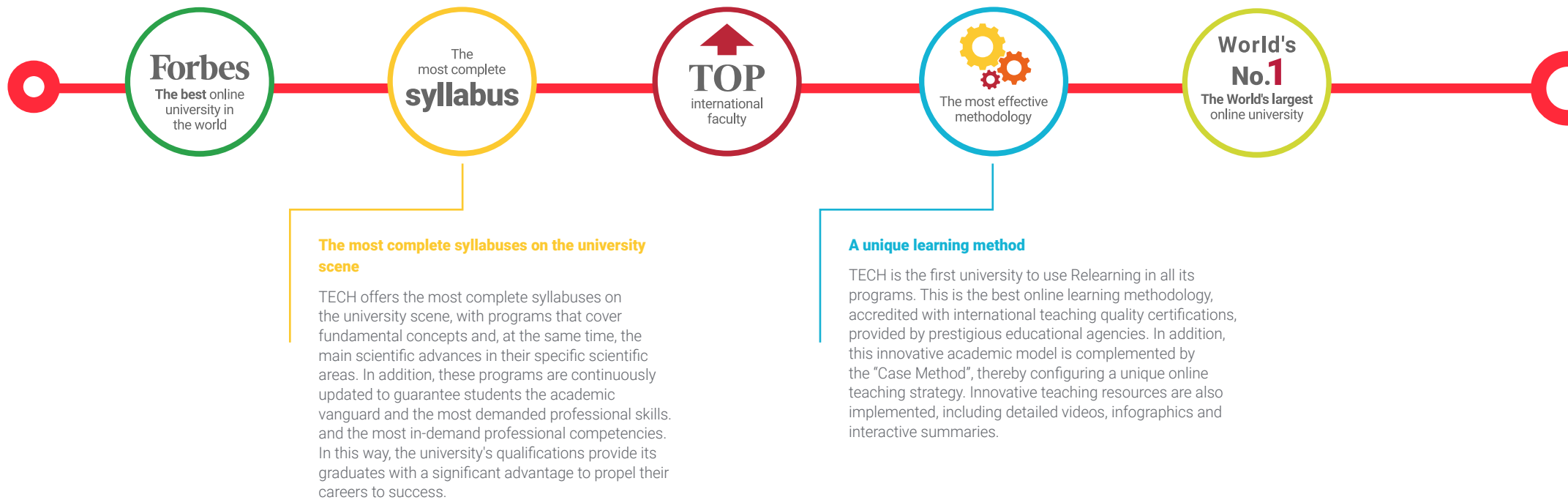
The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

### The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

### The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



#### The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

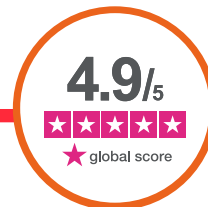
#### Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



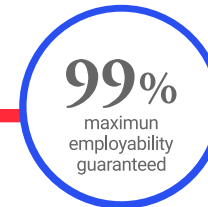
#### Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



#### The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



# 03

## Syllabus

The educational material in this curriculum will allow you to deeply understand the cognitive processes involved in mathematical learning, as well as the factors that may hinder it. Through the analysis of cognitive strategies, counting principles, problem-solving, and the prevention of common errors, professionals will acquire tools to intervene effectively in cases of dyscalculia or other associated difficulties. Additionally, they will strengthen their skills to conduct comprehensive educational diagnostics, design adapted resources, and apply discovery-based methodologies. All of this will contribute to a more inclusive, precise, and needs-adjusted pedagogical practice for the contemporary classroom.







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*You will embark on an interdisciplinary journey that connects neuroeducation, learning psychology, and mathematics didactics to diagnose, prevent common errors, and promote inclusive sessions tailored to each profile”*

## Module 1. Mathematical Learning Difficulties (MLD)

- 1.1. Introduction
- 1.2. Mathematical Knowledge and Its Basic Concepts
  - 1.2.1. Qualitative and Quantitative Concept
  - 1.2.2. Space-Time Concepts
- 1.3. Mathematics and the Processes Involved in Its Learning
  - 1.3.1. Classification
  - 1.3.2. Seriation
  - 1.3.3. Correspondence
  - 1.3.4. Conservation of the Object or Substance
  - 1.3.5. Reversibility of Thought
  - 1.3.6. Cognitive and Meta-Cognitive Strategies
    - 1.3.6.1. Directive Model Strategies
    - 1.3.6.2. Counting
    - 1.3.6.3. Numerical Facts
- 1.4. The Teaching- Learning Process of Mathematics
  - 1.4.1. Subitizing and Counting: Principle of One-to-One Correspondence, Stable Order, Cardinality, Abstraction, and Irrelevance of Order
  - 1.4.2. Learning Numerical Series: Acquisition, Elaboration and Consolidation
  - 1.4.3. Learning Problem Solving: Location of the Variable, Semantic Structure, etc.
  - 1.4.4. Learning Algorithms
- 1.5. Prevention of Learning Difficulties in Mathematics
  - 1.5.1. Protective Factors
  - 1.5.2. Risk Factors
  - 1.5.3. Strategies for the Promotion of Learning Mathematics





- 1.6. Math and Its Difficulties
  - 1.6.1. Definition of Learning Difficulties in Mathematics
  - 1.6.2. Learning Difficulties in Mathematics Related to: The Nature of Math Itself, The Organization and Methodology of Teaching, Related to the Student
  - 1.6.3. Common Errors: In Problem Solving and Steps of Algorithms
  - 1.6.4. Dyscalculia as a Specific Learning Difficulty: Semantic, Perceptual, Procedural
  - 1.6.5. Causes of Mathematics Learning Difficulty (MLD)
    - 1.6.5.1. Contextual Factors
    - 1.6.5.2. Cognitive Factors
    - 1.6.5.3. Neurobiological Factors
- 1.7. Diagnostics and Evaluation of Mathematical Learning Difficulties (MLD)
  - 1.7.1. Standardized Tests
  - 1.7.2. Non-Standardized Tests
  - 1.7.3. The Comprehensive Education Evaluation and Diagnosis
- 1.8. Addressing Learning Difficulties: Mathematical Learning Difficulties
  - 1.8.1. Principles of Care
  - 1.8.2. Teaching Concepts and Procedures
  - 1.8.3. Problem-Solving Strategies
  - 1.8.4. Discovery Teaching Strategies
- 1.9. Activities for the Integration of Knowledge and Its Practical Application
- 1.10. Recommending Readings
- 1.11. Bibliography



04

# Teaching Objectives

This innovative academic experience aims to strengthen professionals' abilities to detect, analyze, and accurately address difficulties associated with mathematical learning. Throughout the academic journey, skills will be developed to interpret cognitive processes involved in numerical knowledge acquisition, apply intervention strategies tailored to individual characteristics, and promote inclusive practices within the classroom. Furthermore, graduates will enhance their critical thinking, make well-founded pedagogical decisions, and design educational resources that facilitate contextualized, meaningful teaching adapted to the current challenges of the educational environment.





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*Transform the way you approach mathematics in the classroom by understanding its cognitive and emotional roots. What are you waiting for to acquire concrete tools that will enable you to intervene effectively from day one?”*



## General Objectives

- ♦ Analyze the theoretical and methodological foundations of diversity management and its impact on learning
- ♦ Understand learning difficulties from a historical, theoretical, and classificatory perspective
- ♦ Develop evaluation and diagnostic strategies for the early detection of learning difficulties
- ♦ Design psychopedagogical interventions based on updated approaches for managing difficulties in reading, writing, and mathematics
- ♦ Explore the influence of language on cognitive development and its role in overcoming learning difficulties
- ♦ Deepen understanding of reading difficulties and their impact on the formation of citizens in the knowledge society
- ♦ Identify effective strategies for teaching mathematics to students with specific difficulties in this area
- ♦ Address Attention Deficit Hyperactivity Disorder (ADHD) as a condition associated with learning difficulties"





### Specific Objectives

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- ♦ Analyze the neurocognitive and methodological factors influencing mathematical difficulties
- ♦ Implement teaching strategies to improve comprehension and performance in mathematics

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*Enhance your ability to identify cognitive obstacles, apply active methodologies, and design personalized resources to address risk factors in numerical learning*



06

# Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.





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*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”*

## The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

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*At TECH you will NOT have live classes  
(which you might not be able to attend)”*



### The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”

## Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.





## Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

*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.*



## A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



*The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”*

### 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.

### The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

*Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.*

*You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.*



As such, the best educational materials, thoroughly prepared, will be available in this program:



#### Study Material

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

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



#### Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



#### Interactive Summaries

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

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

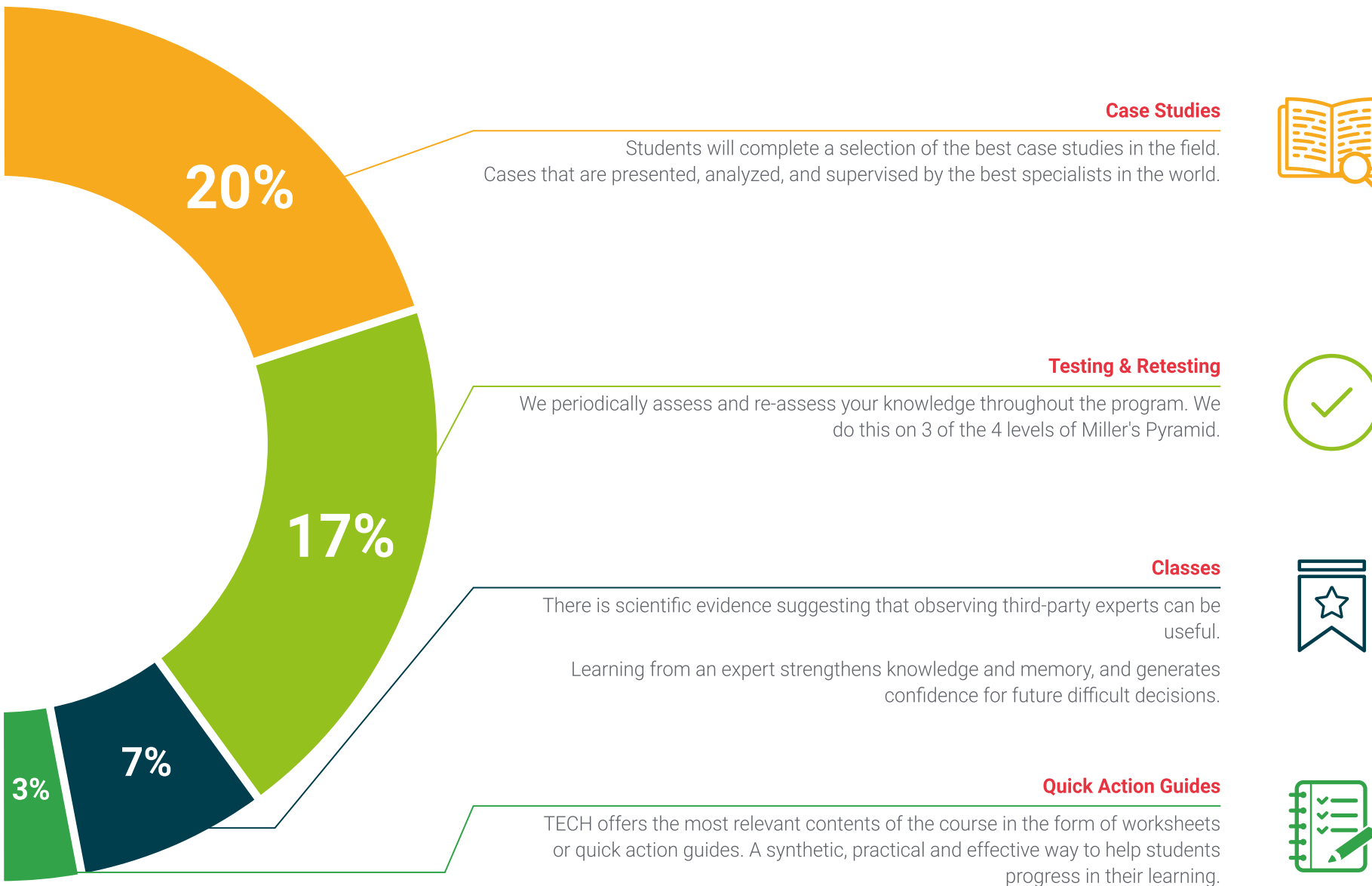


#### Additional Reading

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







06

# Teaching Staff

Each member of the teaching staff at TECH combines a solid theoretical foundation with practical experience in real educational contexts, ensuring an approach that is both close and up-to-date. In fact, their continuous support will enable graduates to acquire a critical, reflective, and applied understanding of Mathematical Learning Difficulties, creating a space conducive to the exchange of knowledge, pedagogical innovation, and the ongoing improvement of educational practice.



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*You will have access to an excellent faculty, composed of highly qualified professionals who will guide you through updated practices. Enroll now and master MLD!”*

## Management



### **Dr. Moreno Abreu, Milagros Josefina**

- ♦ Pedagogue specializing in Learning Difficulties
- ♦ Organizational Consultant, Los Sauces Medical and Surgical Unit.
- ♦ Speech therapist. Private Practice.
- ♦ Master's Degree in Health Education
- ♦ Diploma in Research Methodology
- ♦ Degree in Education with a specialization in Learning Difficulties and Preschool.
- ♦ PhD in Pedagogical Sciences
- ♦ Higher University Technician in Speech Therapy
- ♦ Graduate Professor: Research Methodology I, Design of measurement and evaluation instruments.
- ♦ Graduate Professor. Academic Reading and Writing





-1.5

Teaching Staff | 33 tech

-8.2

-14.4

6.9

7.8

4.3

-0.3

-29.1

19.8

5.9

.7

30%



07

# Certificate

The Postgraduate Certificate in Mathematical Learning Difficulties (MLD) 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 private qualification will allow you to obtain a **Postgraduate Certificate in Mathematical Learning Difficulties (MLD) del Programa** 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.

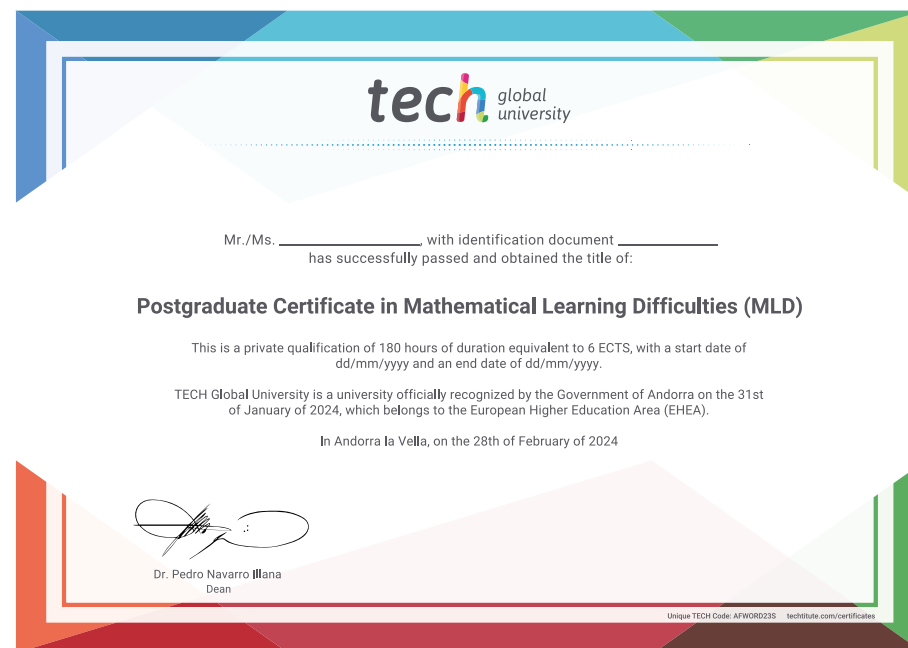
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Mathematical Learning Difficulties (MLD)**

Modality: **online**

Duration: **6 months**

Accreditation: **6 ECTS**





**Postgraduate Certificate**  
**Mathematical Learning**  
**Difficulties (MLD)**

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

# Postgraduate Certificate Mathematical Learning Difficulties (MLD)