

# Postgraduate Certificate

## Use of the e-Portfolio in Mathematics



## Postgraduate Certificate Use of the e-Portfolio in Mathematics

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 4 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/education/postgraduate-certificate/use-e-portfolio-mathematics](http://www.techtute.com/us/education/postgraduate-certificate/use-e-portfolio-mathematics)

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# 01

# Introduction

In the current educational context, there has been an increase in the use of student assessment alternatives that promote self-reflection on the learning that students are achieving. Among these systems is the e-Portfolio, a tool that scientific studies endorse given its benefits for the improvement of acquired knowledge. Used in different areas, it is ideal for the subject of Mathematics. That is why this program was created, which will allow the teaching professional to learn about the preparation of this evaluation instrument, its methodology and examples of application. All this, with an advanced syllabus 100% online and with a theoretical-practical approach that can be accessed comfortably from any electronic device with internet connection and 24 hours a day.



“

*In only 6 weeks you will become  
a specialist in the use of the  
e-Portfolio in Mathematics"*

The curricular designs of the different subjects invite students to develop a wide variety of competencies and skills, which must be subsequently evaluated. In this process, alternatives to traditional systems have been designed; among them is the e-Portfolio.

This tool also incorporates the use of new technologies for its development. All of this significantly favors the reflective learning of students and becomes an essential factor to ensure the success of the teaching process. For this reason, TECH has created this university program oriented to the use of e-Portfolio in Mathematics.

It is a 100% online academic format, which from the very beginning, covers the main characteristics of this system and all the essential elements and tools for its preparation and application in the classroom. To achieve that, this institution has relied on an excellent teaching team with extensive experience in the education sector and in innovative methodologies.

A faculty that has been responsible for developing an advanced syllabus with a practical approach and numerous additional multimedia teaching materials, based on video summaries, videos *in focus* or specialized readings and case studies.

The professionals are therefore faced with an unparalleled opportunity to gain access to a first-class, flexible university program that will greatly enhance their teaching work. All you need is an electronic device with an internet connection to view the content of this postgraduate certificate at any time of the day.

With no classroom attendance or fixed class schedules, students have the freedom to self-manage their study time and be able to pursue an unique university program in today's educational landscape.

This **Postgraduate Certificate in Use of the e-Portfolio in Mathematics** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The examination of case studies presented by experts in High School Mathematics Teaching
- ♦ The graphic, schematic and practical contents of the book provide technical and practical information on those 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



*Stand out in your teaching work and make your students the center of the mathematical learning process. Enroll now"*

“

*A 100% online program that will allow you to successfully plan your e-Portfolio applied to your mathematics subject"*

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned 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 immersive education programmed to learn in real situations.

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

*The multimedia pills are part of the library of pedagogical resources to which you will have access 24 hours a day, 7 days a week.*

*Encourage your students' learning autonomy by using e-Portfolio in your classroom.*



# 02

# Objectives

This Postgraduate Certificate will enable mathematics teachers to design their classroom sessions from start to finish using the Problem-Based Learning methodology. In order to achieve this objective, the students have an advanced syllabus that delves into the main characteristics and provides the techniques and resources they need to put it into practice. In addition, there are examples that will help them to apply it directly in their lessons.







“

*You will become an expert in the use of the e-Portfolio in Mathematics as an evaluative and learning strategy. Enroll now”*



## General Objectives

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- ♦ Know the different types of innovative learning methodologies in education applied to mathematics
- ♦ Know how to apply the different types of innovative learning methodologies in education to Mathematics
- ♦ Know how to discern which is the most appropriate innovative learning method for a group of students studying mathematics in High School
- ♦ Learn to design a didactic unit using the different methodologies of innovation in mathematics education

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*Promote reflective learning in your students and give them a positive experience in the study of mathematics”*





## Specific Objectives

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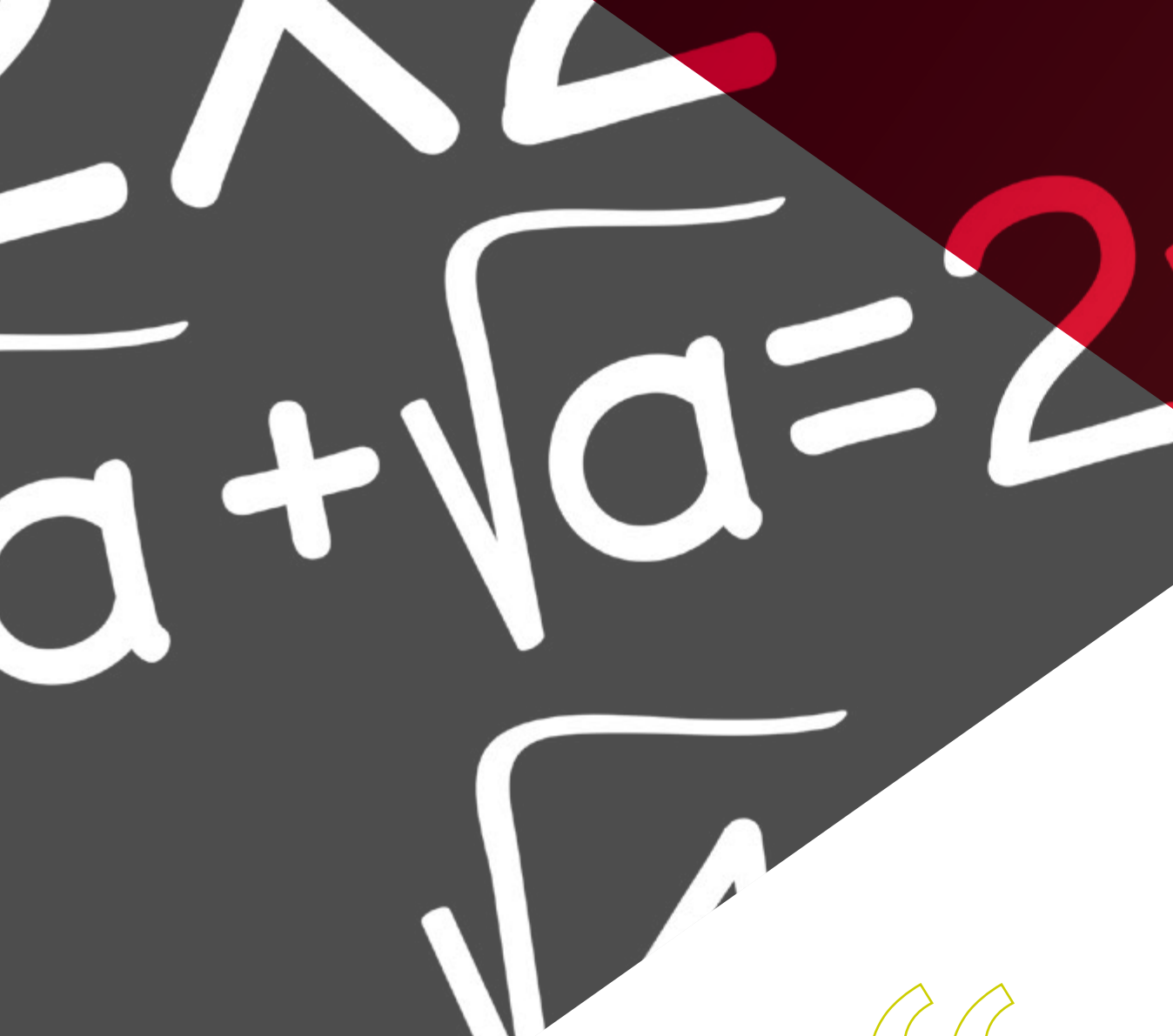
- Learn how to plan a Mathematics Portfolio/e-Portfolio
- Learn what a Mathematics Portfolio/e-Portfolio is
- Know how to differentiate between the mathematics Portfolio and e-Portfolio
- To know what evidence of work in mathematics is
- Know how a Portfolio/e-Portfolio applies to education
- Know what types of Portfolio/e-Portfolio there are
- Know how to classify Portfolios/e-Portfolios
- Learn how to build a Mathematics Portfolio/e-Portfolio
- Know about the different elements of a mathematics Portfolio/e-Portfolio
- Learn how to introduce students to a mathematics Portfolio/e-Portfolio
- Know how to guide a Mathematics Portfolio/e-Portfolio in the classroom
- Know how to assess a mathematics Portfolio/e-Portfolio
- Learn how to use the Portfolio/e-Portfolio to work on the contents of the mathematics curriculum

03

# Course Management

The management and teaching staff of this Postgraduate Certificate is made up of an excellent team of specialists in the educational field. Their experience in teaching and in the





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*You will be able to solve any doubts you may have with a specialized teaching team with a wide vocation towards teaching”*

## Address



### Mr. Jurado Blanco, Juan

- ♦ Secondary School Teacher and Industrial Electronics Expert
- ♦ Mathematics and Informatics teacher in Compulsory Secondary Education at Santa Teresa de Jesús School in Vilanova and Geltrú.) Spain
- ♦ Expert in High Abilities
- ♦ Industrial Technical Engineer with Specialization in Industrial Electronics

## Professors

### Dr. Sánchez García, Manuel

- ♦ Teacher of Compulsory Secondary Education
- ♦ Mathematics teacher in Compulsory Secondary Education at Santa Teresa de Jesús School in Vilanova i la Geltrú.
- ♦ Vocational Training and Language Teaching
- ♦ Health Biology Specialty
- ♦ Master's Degree in Teacher Training for Compulsory Secondary and High School Education
- ♦ Degree in Biology



**Mr. De la Serna, Juan Moisés**

- ♦ Psychologist and Writer expert in Neurosciences
- ♦ Writer specializing in Psychology and Neurosciences
- ♦ Author of the Open Chair in Psychology and Neurosciences
- ♦ Scientific disseminator
- ♦ PhD in Psychology
- ♦ Degree in Psychology. University of Seville
- ♦ Master's Degree in Neurosciences and Behavioral Biology Pablo de Olavide University, Seville
- ♦ Expert in Teaching Methodology. La Salle University
- ♦ University Specialist in Clinical Hypnosis, Hypnotherapy. National University of Distance Education - UNED
- ♦ Diploma in Social Graduate, Human Resources Management, Personnel Administration. University of Seville
- ♦ Expert in Project Management, Administration and Business Management. Federation of Services U.G.T
- ♦ Trainer of Trainers. Official College of Psychologists of Andalusia

# 04

## Structure and Content

The effectiveness of the Relearning method, based on the reiteration of content, has led TECH to use it in all its programs. In this way, the students of this qualification will advance in a much more natural way through the program and will be able to acquire new concepts in a solid way. By doing so, teachers will be able to learn about the characteristics of the Portfolio and become good employers in the evaluation and learning of their mathematics subject.





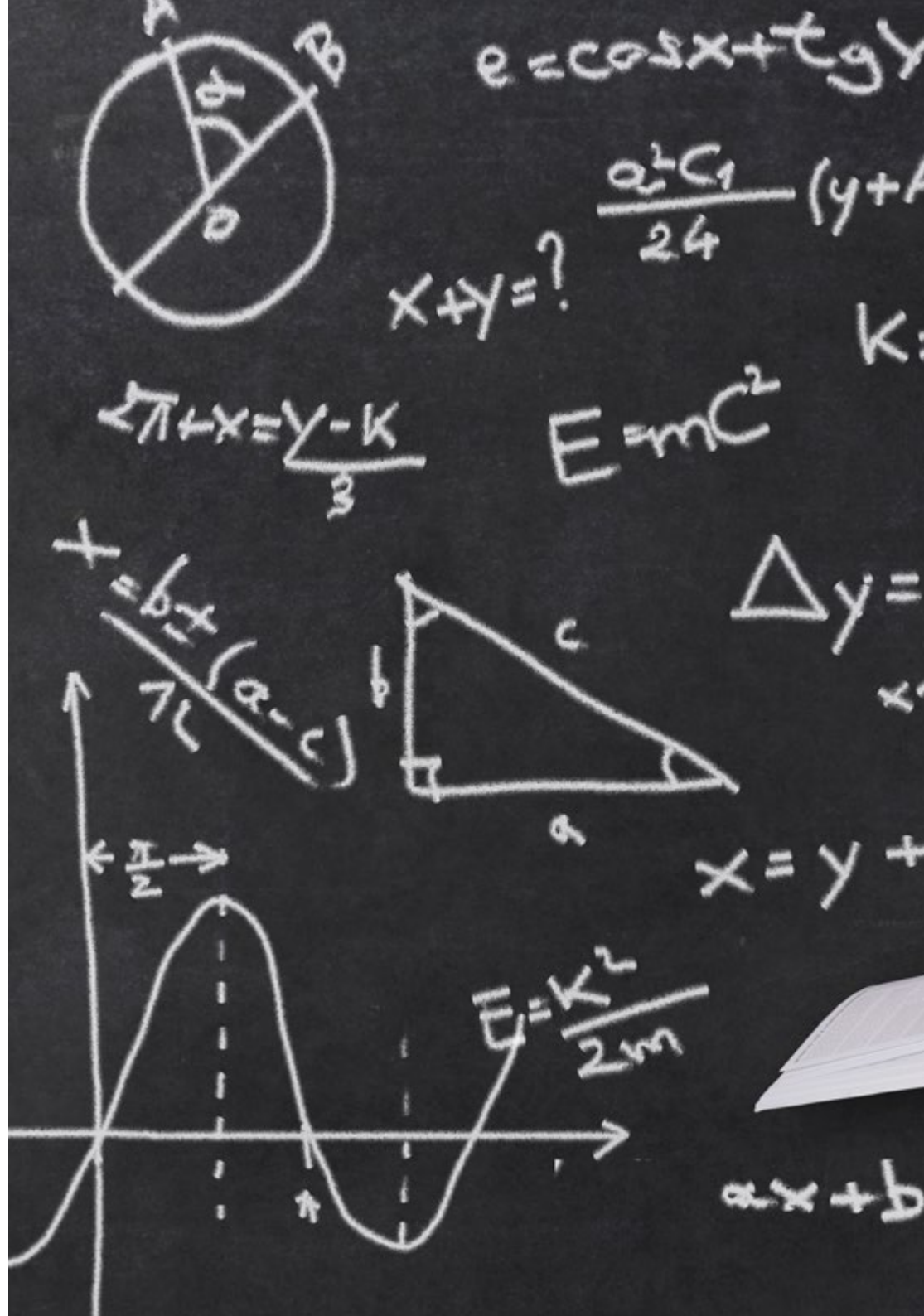


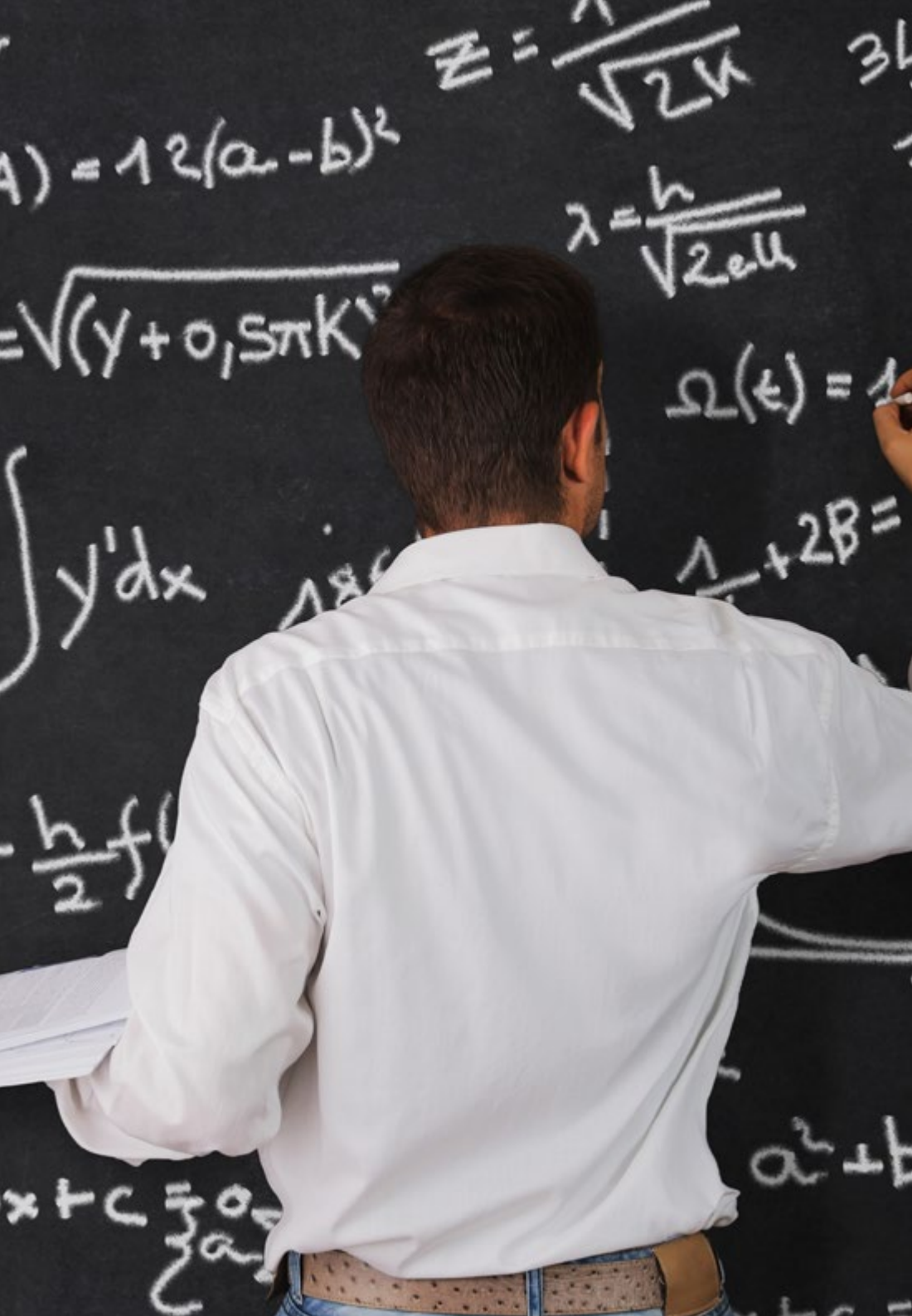
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*You will have all the necessary tools to develop an e-Portfolio in your mathematics subject”*

Module 1. The Portfolio/e-Portfolio in Mathematics

- 1.1. What is a Portfolio/e-Portfolio?
  - 1.1.1. Evidence of Mathematical Work
  - 1.1.2. Portfolios/ Portfolio-Portfolios in Education
  - 1.1.3. Classification of Portfolio/e-Portfolios
    - 1.1.3.1. According to Objective
    - 1.1.3.2. According to Author
    - 1.1.3.3. According to Technological Format
- 1.2. Preparation of the e-Portfolio applied to Mathematics
  - 1.2.1. Education
  - 1.2.2. Definition
  - 1.2.3. Comprehension
  - 1.2.4. Preparation
  - 1.2.5. Assessment
- 1.3. Method of working with the Mathematics Portfolio
  - 1.3.1. Education
  - 1.3.2. Evidence Collection
  - 1.3.3. Selection
  - 1.3.4. Reflection
  - 1.3.5. Publication and Evaluation
  - 1.3.6. Timing
- 1.4. The Mathematics Portfolio: A Practical Example Part I
  - 1.4.1. Portfolio Planning
    - 1.4.1.1. Portfolio Definition
    - 1.4.1.2. General Objectives
    - 1.4.1.3. Specific Objectives
    - 1.4.1.4. Core Competencies to be Worked On
    - 1.4.1.5. Work Methodologies and Rationale
    - 1.4.1.6. General and Specific Timing
    - 1.4.1.7. Student Reflection Strategies (How and When?)
    - 1.4.1.8. Teacher Feedback (How and When?)
    - 1.4.1.9. Type of Portfolio (on Paper or Digital)
    - 1.4.1.10. Activities to be Performed





- 1.5. The Mathematics Portfolio: A Practical Example Part II
  - 1.5.1. Activities aimed at Improvement and Exploration
  - 1.5.2. Necessary ICT Skills: How to Acquire Them
  - 1.5.3. Assessment- Types of assessments
    - 1.5.3.1. Conclusions
  - 1.5.4. How are students informed of what the portfolio is intended to achieve?
    - 1.5.4.1. Understanding the Portfolio
    - 1.5.4.2. Preparation
    - 1.5.4.3. Assessment
  - 1.5.5. Portfolio Sections

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*Thanks to this degree, you will obtain numerous practical examples to apply portfolio to your mathematics subject"*

05

# Methodology

This training program offers 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 Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

*With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.*



*It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.*

“

*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. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
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.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*Educators will learn through real cases and by solving 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 we have trained more than 85,000 educators with unprecedented success in all specialties. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*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 our 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 specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.



### Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



### 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 multimedia content presentation training Exclusive system 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 your goals.



**Classes**

There is scientific evidence suggesting that observing third-party experts can be useful.

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 Use of the e-Portfolio in Mathematics 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 Use of the e-Portfolio in Mathematics** 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.

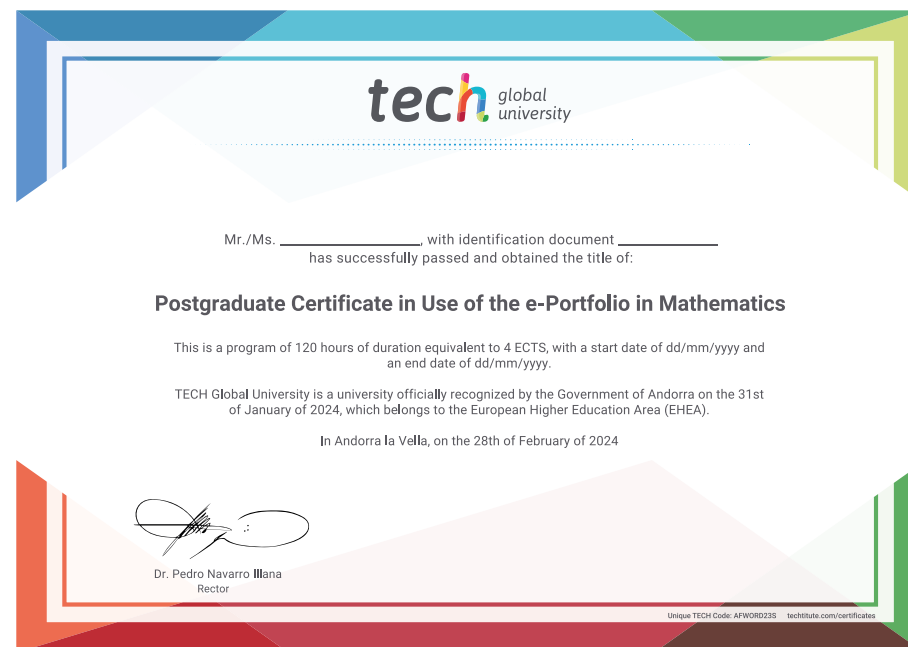
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Use of the e-Portfolio in Mathematics**

Modality: **online**

Duration: **6 weeks**

Accreditation: **4 ECTS**



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development languages  
virtual classroom



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# Postgraduate Certificate

## Use of the e-Portfolio in Mathematics



The image shows a chalkboard with several mathematical formulas written in white chalk. The formulas include:

$$s^2(\epsilon) = \frac{\sum_{i=1}^n e_i^2}{n-2}$$
$$f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} (a_n \cos nx + b_n \sin nx)$$
$$\beta_{yx} = r_{yx} * \frac{S_y}{S_x}$$